



Western Surgical Association

2017 ANNUAL
**SCIENTIFIC
SESSION**

MEETING OBJECTIVES

1. Develop an increased knowledge of surgical disease and treatment.
2. Delineate the importance of new diagnostic and therapeutic modalities in surgery.
3. Prioritize treatment of surgical diseases with new operative and non-operative technologies and treatment options.
4. Have improved understanding of the diagnostic and therapeutic options for breast disease presenting as diagnostic dilemmas

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American College of Surgeons and Western Surgical Association. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™

The American College of Surgeons designates this live activity for a maximum of **15.50** *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the *AMA PRA Category 1 Credits™* listed above, a maximum of **11.25** credits meet the requirements for Self-Assessment.



AMERICAN COLLEGE OF SURGEONS
*Inspiring Quality.
Highest Standards, Better Outcomes*



AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION
*Accredited with Commendation by the
Accreditation Council for Continuing Medical Education*

DISCLOSURE STATEMENT

In compliance with ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. All reported conflicts are managed by a designated official to ensure a bias-free presentation. There were no disclosures submitted for participants in the 2017 program at the time of printing. For updates, please stop by the registration desk.



SCHEDULE OF EVENTS

SCHEDULE OF EVENTS
SATURDAY, NOVEMBER 4, 2017

- 8:00am – 12:00pm* **WSA Executive Committee Meeting**
Cordoba
- 3:00pm – 6:00pm* **Registration Open**
Arrival Foyer
- 5:30pm – 6:30pm* **New Member Reception**
Upper Deck of Kasbah
- 6:30pm – 8:30pm* **Welcome Reception**
Kasbah Patio



Daylight Saving Time Ends - Fall Back!

SCHEDULE OF EVENTS

SUNDAY, NOVEMBER 5, 2017

- 6:00am – 12:00pm* **Registration Open**
Arrival Foyer
- 6:00am – 7:00am* **Continental Breakfast & Exhibit Viewing**
Alhambra A
- 6:30am – 7:00am* **ePoster Session**
Alhambra A
- 6:40am – 7:00am* **MOC Update**
Alhambra B
- 7:00am – 9:10am* **Scientific Session I**
Alhambra B
- 8:00am – 10:00am* **Spouse/Guest Hospitality & Breakfast**
West Prado Terrace
- 9:10am – 9:20am* **Morning Beverage Break, ePosters & Exhibit Viewing**
Alhambra A
- 9:20am – 10:20am* **Scientific Session II**
Alhambra B
- 10:20am – 11:20am* **Presidential Address** | Kelly M. McMasters, MD, PhD
Life, Surgery, and the Philosophy of Dry Creek
Alhambra B
- 12:00pm – 5:00pm* **WSA Golf Outing & Afternoon Activities**
- 12:45pm* **Camelback Mount Echo Canyon Trail Hike**
Meet outside the Crave Café

SCHEDULE OF EVENTS
MONDAY, NOVEMBER 6, 2017

- 7:00am – 5:00pm* **Registration Open**
Arrival Foyer
- 7:00am – 8:00am* **Continental Breakfast & Exhibit Viewing**
Alhambra A
- 7:00am – 8:00am* **ePoster Session**
Alhambra A
- 8:00am – 10:20am* **Scientific Session III**
Alhambra B
- 8:00am – 10:00am* **Spouse/Guest Hospitality & Breakfast**
West Prado Terrace
- 10:00am* **Spouse/Guest Activity - Salsa Class**
Chef's Kitchen
- 10:20am – 10:40am* **Morning Beverage Break, ePosters & Exhibit Viewing**
Alhambra A
- 10:40am – 12:20pm* **Scientific Session IV**
Alhambra B
- 12:20pm – 1:30pm* **Lunch on own**
- 12:30pm – 1:30pm* **Video Session & Lunch** (*Pre-registration required*)
Alhambra B
- 12:30pm – 1:30pm* **Women in Surgery Luncheon**
Prado Patio

SCHEDULE OF EVENTS

MONDAY, NOVEMBER 6, 2017 *continued*

- 1:30pm – 3:30pm* **Bringing the Social Media Revolution to Health Care**
Tyler Hughes, MD | Lee A. Aase | Farris Timimi, MD
Alhambra B
- 3:30pm – 3:45pm* **Afternoon Beverage Break, ePosters & Exhibit Viewing**
Alhambra A
- 3:45pm – 4:15pm* **Quick Shot Presentations**
Alhambra B
- 4:15pm – 4:45pm* **Changes in Physician Leadership and Physician Leadership Education**
Michael J. Stahl, PhD
Alhambra B
- 4:45pm – 5:45pm* **WSA Annual Business Meeting** (*WSA Members Only*)
Alhambra B
- 7:00pm – 11:00pm* **President's Reception & Dinner Dance**
(*Attire: Western Black Tie*)
Valencia Lawn & Ballroom

SCHEDULE OF EVENTS
TUESDAY, NOVEMBER 7, 2017

7:00am – 11:30am **Registration Open**
Alhambra Terrace & Foyer

7:00am – 9:00am **Continental Breakfast**
Alhambra Terrace & Foyer

7:30am – 9:20am **Scientific Session V**
Alhambra B

9:20am – 9:50am **Nonie Lowry Oration | David Nagorney, MD**
Chasing Hepatic Metastases
Alhambra B

9:50am – 11:15am **Scientific Session VI**
Alhambra B

Meeting Concludes

EXECUTIVE COMMITTEE

| | |
|--------------------------|---|
| President | Kelly M. McMasters, MD, PhD |
| 1st Vice President | David M. Nagorney, MD |
| 2nd Vice President | Karen R. Borman, MD |
| Secretary | Leigh A. Neumayer, MD, MS |
| Treasurer | Mark S. Talamonti, MD |
| Recorder | Karen J. Brasel, MD, MPH |
| Immediate Past President | R. James Valentine, MD |
| Past President | William C. Chapman, MD |
| District Representative | Daniel R. Margulies, MD |
| District Representative | Peter Rhee, MD, MPH |
| District Representative | Anees B. Chagpar, MD, MSc, MA, MPH, MBA |
| District Representative | Tyler G. Hughes, MD |

SOCIETY REPRESENTATIVES

| | |
|---------------------------------|-------------------------|
| ACS Board of Governors | Charles R. Scoggins, MD |
| ACS Advisory Council on Surgery | G. Edward Kimm, MD |
| American Board of Surgery | David R. Farley, MD |

PROGRAM COMMITTEE

| |
|--|
| Anton J. Bilchik, MD, PhD, MBA Chair |
| Maria B. Majella Doyle, MD |
| Carmen C. Solorzano, MD |
| Jeffrey E. Lee, MD |
| Anees B. Chagpar, MD, MSc, MA, MPH, MBA Ex-Officio District Representative |
| Tyler Hughes, MD Ex-Officio District Representative |
| Kelly M. McMasters, MD, PhD Ex-Officio President |
| Leigh A. Neumayer, MD, MS Ex-Officio Secretary |
| Karen J. Brasel, MD, MPH Ex-Officio Recorder |

MEMBERSHIP COMMITTEE

Steven A. De Jong, MD | Chair

Thomas A. Aloia, MD

Jayer Chung, MD, MSc

Charles R. Scoggins, MD

Daniel R. Margulies, MD | Ex-Officio District Representative

Peter Rhee, MD | Ex-Officio District Representative

Kelly M. McMasters, MD, PhD | Ex-Officio President

Leigh A. Neumayer, MD, MS | Ex-Officio Secretary

Mark S. Talamonti, MD | Ex-Officio Treasurer

2018 Local Arrangements

James A. Madura, MD



SCIENTIFIC AGENDA



Aust Award Candidate

SCIENTIFIC AGENDA

SUNDAY, NOVEMBER 5, 2017

6:30am - 7:00am

ePosters Session

Monitor: 1

Moderator: Anton Bilchik MD, PhD, *Santa Monica, CA*

Room Location: Alhambra A

6:35am - 6:40am

P1. IMPACT OF NOVEL WOUND PROTECTION DEVICE ON OBSERVED VS EXPECTED SURGICAL SITE INFECTION RATES FOLLOWING COLECTOMY USING THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM RISK CALCULATOR

*HT Papaconstantinou MD, R Ricciardi MD, DA Margolin MD,
R Bergamaschi MD PhD, R Moesinger MD, W Lichliter MD,
JS Thomas MD, E Birnbaum MD*

Baylor Scott & White Healthcare

Presenter: Harry T. Papaconstantinou MD

6:40am - 6:45am

VIDEO P2. BLUNT SPLENIC INJURY DURING COLONOSCOPY: IS IT AS RARE AS WE THINK

*EG Andrade, OA Olufajo, EL Drew, DJ Schuerer, GV Bochicchio,
LJ Punch*

Washington University School of Medicine

Presenter: Doug Schuerer, MD

SCIENTIFIC AGENDA

6:45am - 6:50am

P3. RADIATION AND ITS IMPACT ON LOCAL RECURRENCE IN EXTREMITY AND TRUNK LIPOSARCOMAS

*Annabelle L Fonseca MD, Christina L Roland MD,
Janice N Cormier MD MPH, Keila E Torres MD PhD, Kelly K Hunt
MD, Andrew J Bishop MD, Barry W Feig MD*

University of Texas MD Anderson Cancer Center

Presenter: Annabelle L. Fonseca MD, MHS

6:50am - 6:55am

P4. PREDICTING ORGAN DYSFUNCTION AFTER TRAUMATIC BRAIN INJURY (TBI): THE HEMOGRAM SCORE

*M Khan MD, N Kulvatunyou MD, F Jehan MD, T O'Keeffe MD,
A Tang MD, A Jain MD, G Vercrusse MD, L Gries MD, B Joseph MD*

University of Arizona

Presenter: Muhammad Khan MD

6:55am - 7:00am

P5. REANIMATION OF CRYOPRESERVED GASTROINTESTINAL PATIENT-DERIVED TISSUE

MC Hernandez MD, JR Bergquist MD, L Yang PhD, MJ Truty MD
Mayo Clinic

Presenter: Matthew Hernandez MD

SCIENTIFIC AGENDA

6:30am - 7:00am

ePosters Session

Monitor: 2

Moderator: Maria B Majella Doyle MD, MBA, *St. Louis, MO*

Room Location: Alhambra A

6:35am - 6:40am

P6. REDUCTION IN THE RATE AND SEVERITY OF CLINICALLY RELEVANT POSTOPERATIVE PANCREATIC FISTULA CAN BE ACHIEVED BY SELECTIVE USE OF PANCREATICOGASTROSTOMY IN PATIENTS WITH A “HIGH RISK” PANCREATIC REMNANT.

GB Kazantsev MD, AL Spitzer MD, RM Ramirez, PD Peng MD, CK Chang MD

The Permanente Medical Group

Presenter: George Kazantsev MD

6:45am - 6:50am

P8. VARIATION IN DRG MIGRATION RATES: A MARKER FOR PROCESS OF CARE EFFICIENCY IN COLECTOMY IN VALUE BASED PURCHASING

BD Hughes MD, HB Mehta PhD, SA Moore MD, Y Shan PhD, AJ Senagore MD

University of Texas Medical Branch, Galveston

Presenter: Byron D. Hughes MD, MPH

SCIENTIFIC AGENDA

6:50am - 6:55am

P9. ADJUVANT RADIATION IMPROVES SURVIVAL FOR SELECT PATIENTS WITH NON-METASTATIC ADRENOCORTICAL CARCINOMA

DW Nelson DO, S Chang PhD, BC Bandera MD, TD Fischer MD, R Wollman MD, M Goldfarb MD

John Wayne Cancer Institute at Providence Saint John's Health Center

Presenter: Daniel Nelson DO

6:30am - 7:00am

ePosters Session

Monitor: 3

Moderator: Charles Scoggins MD, *Louisville, KY*

Room Location: Alhambra A

6:40am - 6:45am

P12. SURVIVAL CALCULATOR FOR RESECTABLE STAGE I-III ESOPHAGEAL CANCER DERIVED FROM THE NATIONAL CANCER DATABASE

HM Hedberg MD, K Kuchta PhD, MB Ujiki MD

NorthShore University HealthSystem

Presenter: H. Mason Hedberg MD

6:45am - 6:50am

VIDEO P13. SLIPPED GASTRIC BAND WITH ORGANO-AXIAL VOLVULUS OF STOMACH

N Cieza, S Fu, I Ghaderi

University of Arizona

Presenter: Sandeep Jhaggi MD

SCIENTIFIC AGENDA

6:50am - 6:55am

P14. OUTCOMES FOR PATIENTS WITH STAGE IV COLORECTAL CANCER: CONCURRENT RESECTION OF THE COLORECTAL PRIMARY AND HEPATIC METASTASES

N Machairas MD, KL Mathis MD, DW Larson MD MBA, DM Nagorney MD

Mayo Clinic

Presenter: David Nagorney MD

6:55am - 7:00am

P15. AN ENHANCED RECOVERY PROGRAM IN LIVER SURGERY IMPROVES OVERALL AND RECURRENCE-FREE SURVIVALS

CH Davis MD, BJ Kim MD, ME Egger MD, N Narula MD, RW Day MD, VN Gottumukkala MD, JN Vauthey MD, TA Aloia MD
University of Texas MD Anderson Cancer Center

Presenter: Catherine Davis MD, MPH

6:30am - 7:00am

ePosters Session

Monitor: 4

Moderator: Mark Talamonti MD, *Chicago, IL*

Room Location: Alhambra A

6:35am - 6:40am

P16. A COMPREHENSIVE MULTIDISCIPLINARY APPROACH TO IMPROVE SURGICAL OUTCOMES FOLLOWING ELECTIVE COLORECTAL SURGERY

Tripurari Mishra MD, Jan P Kaminski, MD MBA, Joaquin J Estrada, MD
University of Illinois Metropolitan Group Hospitals

Presenter: Deepa Bhat MD

SCIENTIFIC AGENDA

6:40am - 6:45am

VIDEO P17. ROBOTIC SURGERY MAY PROMOTE MINIMALLY INVASIVE SURGERY IN HIGH RISK PATIENTS

T Paul Singh MD, Liam Knott MD, Jessica Zaman MD, Steven Stain MD
Albany Medical College

Presenter: T Paul Singh, MD

6:45am - 6:50am

P18. FINANCIAL MODEL FOR A ZERO COST RESIDENT TRAINING WITHIN AN ACADEMIC SURGICAL DEPARTMENT IN RURAL AREAS

S Joseph MD, CN Ellis MD, J Molland BBA MBA, M Joseph JD MBA
Texas Tech University Health Sciences Center

Presenter: Saju Joseph MD

6:50am - 6:55am

VIDEO P19. ROBOTIC IVOR-LEWIS ESOPHAGECTOMY

YK Hong, P Philips

University of Louisville

Presenter: Young Hong MD

6:55am - 7:00am

P20. PATTERNS OF USE AND FACTORS ASSOCIATED WITH SUSTAINED PRESCRIPTION OPIOID USE AFTER EMERGENCY GENERAL SURGERY

M Castillo-Angeles MD MPH, MA Chaudhary MD,

M Sharma MD MPH, W Jiang MS, A Schoenfeld MD MSc,

JM Havens MD, T Koehlmoos PhD MHA, AH Haider MD MPH,

A Salim MD, SL Nitzschke MD

Brigham and Women's Hospital

Presenter: Manuel Castillo-Angeles MD, MPH

SCIENTIFIC AGENDA

6:40am – 7:00am

MOC Update

Room Location: Alhambra B

7:00am - 9:10am

Scientific Session I

Moderator: President, Kelly McMasters MD, PhD, *Louisville, KY*

Room Location: Alhambra B

7:15am - 7:25am

QS1. MANAGEMENT OF THE POSITIVE NIPPLE MARGIN IN NIPPLE-SPARING MASTECTOMY: A LESS AGGRESSIVE AND ONCOLOGICALLY SAFE APPROACH

*ML Haslinger MD, M Sosin MD, AJ Bartholomew MS, AB Crocker MS,
A Gulla MD, S Seevaratnam BS, TA Pittman MD, SC Willey MD,
EA Tousimis MD*

Presenter: Michelle Haslinger MD

7:25am - 7:35am

QS2. SAME-DAY DISCHARGE AFTER LAPAROSCOPIC GASTRIC BYPASS: A STEP TOO FAR?

CY Koh MD, S Sujatha-Bhaskar MD, L Zhang MS, NT Nguyen MD

Presenter: Colette Inaba MD

7:35am - 7:45am

QS3. TWO STAGE HEPATECTOMY VERSUS ONE STAGE MAJOR HEPATECTOMY WITH CONTRALATERAL RESECTION OR ABLATION FOR BILOBAR COLORECTAL LIVER METASTASES

*JM Cloyd MD, T Mizuno MD PhD, K Omichi MD PhD, CD Tzeng MD,
YS Chun MD, C Conrad MD PhD, TA Aloia MD, JN Vauthey MD*

Presenter: Jordan Cloyd MD

SCIENTIFIC AGENDA

7:45am - 8:05am



1. EFFECT OF MARGIN CONSENSUS GUIDELINE IMPLEMENTATION ON RE-EXCISION RATES, SATISFACTION, AND COST FOR EARLY STAGE INVASIVE BREAST CANCER

N Bhutiani MD, KC Bachman MD, MK Mercer BA, SR Heidrich BA, RCG Martin II MD PhD, CR Scoggins MD MBA, KM McMasters MD PhD, N Ajkay MD

University of Louisville

Presenter: Nicolás Ajkay MD

Invited Discussant: Nora Hansen MD, *Chicago, IL*

8:05am - 8:25am

2. DO ALL POSITIVE MARGINS IN BREAST CANCER PATIENTS UNDERGOING A PARTIAL MASTECTOMY NEED TO BE RESECTED?

AB Chagpar MD MSc MPH MA MBA, TN Tsangaris MD, DR Lannin MD

Yale University School of Medicine

Presenter: Anees Chagpar MD, MSc, MPH, MA, MBA

Invited Discussant: Nicolas Ajkay MD, *Louisville, KY*

8:25am - 8:45am

3. GENDER DIFFERENCES IN LONG-TERM PATIENT-CENTERED OUTCOMES AFTER TRAUMA

JP Herrera-Escobar MD, A Ranjit MD MPH, C Weed MD MPH, SS Al Rafai MD, K Brasel MD MPH, G Kasotakis MD MPH, H M.A Kaafarani MD MPH, G Velmahos MD PhD, AH Haider MD MPH, A Salim MD

Brigham and Women's Hospital

Presenter: Juan Pablo Herrera-Escobar, MD

Invited Discussant: Peter Rhee MD, MPH, *Atlanta, GA*

SCIENTIFIC AGENDA

9:20am - 10:20am

Scientific Session II

Moderator: David Nagorney MD, Rochester, MN

Room Location: Alhambra B

9:20am - 9:40am



4. COMPLICATIONS AND HEALTH RELATED QUALITY OF LIFE AFTER LIVING LIVER DONATION: A SINGLE-CENTER ANALYSIS OF 171 DONORS

S Chinnakotla, MD MBA, V Kirchner MD, O Serrano, MD MBA, S Mongin Ph D, T Pruett MD

University of Minnesota

Presenter: Srinath Chinnakotla MD, MBA

Invited Discussant: William Chapman MD, *St. Louis, MO*

9:40am - 10:00am



5. THE CURRENT TOKYO GUIDELINES ARE NOT CLINICALLY RELEVANT FOR THE DIAGNOSIS AND MANAGEMENT OF CHOLECYSTITIS

F Jehan MD, B Joseph MD, M Dacey MD, N Kulvatunyou MD, M Khan MD, A Tang MD, L Gries MD, T O'Keeffe MD, T Riall MD PhD

University of Arizona

Presenter: Faisal Jehan MD

Invited Discussant: Gary Vitale MD, *Louisville, KY*

SCIENTIFIC AGENDA

10:00am - 10:20am

6. WHAT ARE THE MOST SIGNIFICANT COST AND VALUE DRIVERS FOR PANCREATIC RESECTION IN AN INTEGRATED HEALTHCARE SYSTEM?

B Vuong MD, A Dehal MD, AN Graff-Baker MD, S Stern MS, J Mejia MD, R Wolf MD, P Newell MD, R Weerasinghe MPH, V Kapoor MS, P Hansen MD, A Bilchik MD

John Wayne Cancer Institute at Providence Saint John's Health Center

Presenter: Brooke Vuong MD, MHA

Invited Discussant: Mark Talamonti MD, *Evanston, IL*

10:20am – 11:20am

WSA Presidential Address

Kelly M. McMasters MD, PhD, *Louisville, KY*

Life, Surgery, and the Philosophy of Dry Creek

Room Location: Alhambra B

SCIENTIFIC AGENDA

MONDAY, NOVEMBER 6, 2017

7:00am - 8:00am

ePosters Session

Monitor: 1

Moderator: Anees Chagpar MD, MBA, MPH, *New Haven, CT*

Room Location: Alhambra A

7:05am - 7:10am

P21. DOES HLA MISMATCHES ALTER THE OUTCOME OF ABO INCOMPATIBLE KIDNEY TRANSPLANTS

JR Wellen MD MBA, MB Doyle MD MBA, LA Dageforde MD, S Shenoy MD, A Khan MD, WC Chapman MD

Washington University in Saint Louis

Presenter: Jason Wellen MD, MBA

7:10am - 7:15am

P22. KEEPING OUTPATIENT THYROIDECTOMY SAFE BY MINIMIZING THE RISK AND OPTIMIZING THE MANAGEMENT OF POSTOPERATIVE CERVICAL HEMATOMA

HA Reinhart MD, VE Wagner MD, SV Stafford MD, CW Graham MD, MD Bortz MD

Baylor Scott & White Healthcare

Presenter: Henry Reinhart MD

SCIENTIFIC AGENDA

7:15am - 7:20am

P23. THE BLEED-PD TRIAL: BLOOD LOSS EXCEEDS EXPECTATIONS DURING PANCREATODUODENECTOMY

RT Groeschl MD, AM Wockenfus, JM Aho MD, PE Skaran,

ML Kendrick MD, MB Farnell MD

Mayo Clinic

Presenter: Ryan Groeschl MD

7:20am - 7:25am

VIDEO P24. ROBOTIC PRESACRAL CYST EXCISION WITH TRANSVAGINAL EXTRACTION

BA Spindler, MM El Khatib, SR Kelley

Mayo Clinic

Presenter: Blake Spindler MD

7:25am - 7:30am

P25. HYPOXIA INDUCIBLE FACTOR-1 α EXPRESSION IS CRITICAL FOR METASTASIS IN A MURINE PANCREATIC ADENOCARCINOMA MODEL

CC Barnett MD, J Yi MD, BH Edil MD, RD Schulick MD,

KC El Kasmi MD PhD

University of Colorado School of Medicine

Presenter: Carlton Barnett MD

7:30am - 7:35am

P26. PHYSICIAN INFLUENCE ON BREAST CANCER SURGICAL TREATMENT

BL Murphy MD, DL Stan MD, AE Glasgow MHA,

EB Habermann PhD, JW Jakub MD

Mayo Clinic

Presenter: Brittany Murphy MD

SCIENTIFIC AGENDA

7:35am - 7:40am

VIDEO P27. LAPAROSCOPIC REPAIR OF DIAPHRAGMATIC HERNIA

J Muradov, F Kehdy

University of Louisville

Presenter: Jo Muradov MD

7:40am - 7:45am

VIDEO P28. VENTRAL HERNIA REPAIR

DB Porter MD, J Muradov MD, FJ Kehdy MD

University of Louisville

Presenter: Jo Muradov MD

7:45am - 7:50am

VIDEO P29. LAPAROSCOPIC GASTROPEXY

J Muradov, F Kehdy

University of Louisville

Presenter: Jo Muradov MD

7:50am - 7:55am

P30. CO-MORBIDITY REMISSION FOLLOWING INTRAGASTRIC BALLOON PLACEMENT FOR EARLY STAGE OBESITY

H Khoury BS, K Shpanskaya BS

Stanford School of Medicine

Presenter: John Morton MD, MPH

SCIENTIFIC AGENDA

7:00am - 8:00am

ePosters Session

Monitor: 2

Moderator: Tyler Hughes MD, *Kansas City, KS*

Room Location: Alhambra A

7:05am - 7:10am

P31. SPLEEN-PRESERVING DISTAL PANCREATECTOMY IN TRAUMA

*M Schellenberg MD, K Inaba MD, V Cheng BA, JM Bardes MD,
L Lam MD, E Benjamin MD PhD, K Matsushima MD,
D Demetriades MD PhD*

Los Angeles County + University of Southern California
Medical Center

Presenter: Morgan Schellenberg MD MPH

7:10am - 7:15am

P32. IMPACT OF PRE-HOSPITAL GROUND TRANSPORTATION MODE ON SURGICAL OUTCOMES FOLLOWING TRAUMATIC INJURY

*V Cheng MD, K Inaba MD, J Tang BA, M Schellenberg MD,
S Byerly MD, K Matsushima MD, D Demetriades MD*

Los Angeles County + University of Southern California
Medical Center

Presenter: Vincent Cheng MD

SCIENTIFIC AGENDA

7:15am - 7:20am

P33. A POPULATION BASED COMPARISON OF MALE BREAST CANCER WITH FEMALE BREAST CANCER IN THE UNITED STATES

AN Cobb MD, F Vaince MD, CV Godellas MD, PC Kuo MD

Loyola University Medical Center

Presenter: Adrienne N Cobb MD

7:20am - 7:25am

P34. PROVIDER VARIATION OF DISCHARGE OPIOID PRESCRIPTIONS AFTER ELECTIVE SURGERY

MJ Nooromid MD, E Blay MD, K Ho MD, JK Johnson PhD,

JL Holl MD, KY Bilimoria MD, JJ Stulberg MD, MK Eskandari MD

Northwestern Memorial Hospital

Presenter: Michael Nooromid MD

7:25am - 7:30am

P35. FACTORS THAT PREDICT BIOLOGICAL AGGRESSIVENESS IN ESTROGEN RECEPTOR-POSITIVE, HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2-NEGATIVE, LYMPH NODE-NEGATIVE BREAST CANCER

LE Arthur MD, LN Slattery BS, GM Fuhrman MD, AM Mackey MD,

AE Rivere ME, RL Corsetti MD

Ochsner Clinic Foundation

Presenter: Lauren Slattery BS

7:30am - 7:35am

P36. GASTROSCHISIS WITH INTESTINAL ATRESIA: MANAGEMENT STRATEGIES AND OUTCOMES

DM Notrica MD

Phoenix Children's Hospital

Presenter: Kaohinani Longwolf MD

SCIENTIFIC AGENDA

7:35am - 7:40am

VIDEO P37. OPEN REPAIR OF GIANT POPLITEAL ANEURYSM IN A PATIENT WITH PRIOR ANEURYSM REPAIR

Kevin Seeras, Ali Roham, Sachinder Singh Hans

Henry Ford Macomb Hospital

Presenter: Kevin Seeras DO

7:40am - 7:45am

P38. VARIABILITY AND DISPARITIES IN THE TREATMENT OF SQUAMOUS CELL CARCINOMA OF THE ANAL CANAL

EG Arsoniadis MD, Y Fan MPH, S Jarosek PhD, WB Gaertner MD, MR Kwaan MD

University of Minnesota

Presenter: Elliot Arsoniadis MD

7:45am - 7:50am

P39. PATTERNS OF VASOPRESSOR UTILIZATION IN A SURGICAL INTENSIVE CARE UNIT AND DEVELOPMENT OF THE VASO-SCORE FOR MORTALITY PREDICTION

NK Dhillon MD, G Liao MD, C Colovos MD PhD, A Ko MD, GM Thomsen PhD, DR Margulies MD, EJ Ley MD, G Barmparas MD

Cedars-Sinai Medical Center

Presenter: Navpreet Dhillon MD

7:50am - 7:55am

P40. EARLY POSITIVE FLUID BALANCE IS PREDICTIVE FOR VENOUS THROMBOEMBOLISM IN CRITICALLY ILL SURGICAL PATIENTS

NK Dhillon MD, T Li, C Colovos MD PhD, L Kirillova, E Gillette, DR Margulies MD, G Barmparas MD, EJ Ley MD

Cedars-Sinai Medical Center

Presenter: Navpreet Dhillon MD

SCIENTIFIC AGENDA

7:00am - 8:00am

ePosters Session

Monitor: 3

Moderator: Maria B Majella Doyle MD, MBA, *St. Louis, MO*

Room Location: Alhambra A

7:05am - 7:10am

P41. CLINICAL SIMULATION-BASED ASSESSMENT OF VENTILATOR MANAGEMENT

P Mehta MD, NK Dhillon MD, H Vora MD, G Barmparas MD, EJ Ley MD, S Karlan MD, R Chung MD

Cedars-Sinai Medical Center

Presenter: Pratik Mehta MD

7:10am - 7:15am

P43. PARATHYROIDECTOMY: DOES SURGICAL APPROACH INFLUENCE RECURRENCE RATES?

JA Cirino MD, NC Luehmann MD, WR Barnes MD, EE Abbott DO, JM Robbins MD, PF Czako MD, S Nagar MD

Beaumont Hospital

Presenter: Jennifer Cirino MD

7:15am - 7:20am

VIDEO P45. CROHN'S SHORT VERSION

CS Johnson MD

Oklahoma Surgical Hospital

Presenter: Craig Johnson MD

SCIENTIFIC AGENDA

7:20am - 7:25am

P46. COMPLIANCE AND VARIANCE IN TEACHING ASSISTANT EXPERIENCE DURING SURGICAL RESIDENCY

Mitesh Patel MD, Harit Kapoor MD, Vijay K Mittal MD

Providence Hospitals and Medical Center

Presenter: Mitesh Patel MD

7:25am - 7:30am

VIDEO P47. PARASTOMAL HERNIA REPAIR

CS Johnson MD

Oklahoma Surgical Hospital

Presenter: Craig Johnson MD

7:30am - 7:35am

VIDEO P48. SUBTOTAL COLECTOMY

CS Johnson MD

Oklahoma Surgical Hospital

Presenter: Craig Johnson MD

7:35am - 7:40am

VIDEO P49. XI COMPLICATED DIVERTICULITIS WITH TSF

CS Johnson MD

Oklahoma Surgical Hospital

Presenter: Craig Johnson MD

SCIENTIFIC AGENDA

7:40am - 7:45am

P50. PATENCY OF LONG TERM DIALYSIS ACCESS IN HEMODIALYSIS PATIENTS AFTER PERCUTANEOUS TREATMENT OF CENTRAL VEIN STENOSIS

C Chan MD, R Bennett MD, SG Katz MD

Huntington Memorial Hospital

Presenter: Carney Chan MD

7:00am - 8:00am

ePosters Session

Monitor: 4

Moderator: Daniel Margulies MD, *Los Angeles, CA*

Room Location: Alhambra A

7:05am - 7:10am

P51. IDENTIFYING TOP PRIORITIES FOR FACULTY DEVELOPMENT USING THE DELPHI CONSENSUS METHOD

SB Deal MD, A Alseidi MD EdM, JG Chipman MD, JM Gauvin MD,

MP Meara MD MBA, R Sidwell MD, D Stefanidis MD PhD,

PJ Schenarts MD

Virginia Mason Medical Center

Presenter: Shanley B Deal MD

SCIENTIFIC AGENDA

7:10am - 7:15am

P52. WHAT'S IN THE TRASH: LESSONS LEARNED FROM STUDYING OPENED BUT UNUSED MATERIALS IN THE OPERATING ROOM

R McKee MD MPH, BA Ross BA, M Hulou MD, TG Pollard, B Blacker, A Crawley, JM Glenn MD, ZO Jones MD, SR Cali MD, GC Dunivan MD, MT Nelson MD

University of New Mexico Hospital

Presenter: Rohini McKee MD MPH

7:15am - 7:20am

VIDEO P53. LAPAROSCOPIC REVISION OF VERTICAL BANDED GASTROPLASTY FOR DYSPHAGIA

JL Phillips, LR Putnam, NT Nguyen

University of California Irvine School of Medicine

Presenter: Jacquelyn Phillips BS

7:20am - 7:25am

P55. SYNOPTIC OPERATIVE REPORTING FOR LAPAROSCOPIC CHOLECYSTECTOMY AND PANCREATICODUODENECTOMY: A MULTI-INSTITUTIONAL PILOT STUDY EVALUATING COMPLETENESS AND SURGEON PERCEPTIONS

SB Deal MD, A Alseidi MD EdM

Virginia Mason Medical Center

Presenter: Shanley Deal MD

SCIENTIFIC AGENDA

7:25am - 7:30am

P56. ASSOCIATION BETWEEN SURGICAL DELAY AND POST-OPERATIVE MORBIDITY IN THE MANAGEMENT OF PERFORATED PEPTIC ULCERS

BR Movitz, F Bryan, SS Kingsley, RE Lutfi

University of Illinois Metropolitan Group Hospitals

Presenter: Jamie O'Rear MD

7:30am - 7:35am

P57. COMP GENE IS OVEREXPRESSED IN EARLY-ONSET COLON CANCER, CO-EXPRESSED WITH EMT GENES AND ASSOCIATED WITH POOR SURVIVAL

VN Nfonsam MD MS, J Jandova PhD, D Chen MS, R Runyan PhD

University of Arizona

Presenter: Valentine Nfonsam MD, MS

7:35am - 7:40am

P58. LAPAROSCOPIC TYPE IV HIATAL HERNIA REPAIR WITH TOUPET FUNDOPLICATION: CLINICAL OUTCOMES AND LESSONS LEARNED

Victoria Chang, MD, Grant Garwood, MS, David Roife, MD,

Chandni Kaushik, MS, Charles C Miller PhD, Farzaneh Banki, MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Grant Garwood MS

7:40am - 7:45am

VIDEO P59. LAPAROSCOPIC MANAGEMENT OF GALLSTONE ILEUS

AE Giovannetti, JM O'Rear, RE Lutfi, FA Quinteros

University of Illinois Metropolitan Group Hospitals

Presenter: Jamie O'Rear MD

SCIENTIFIC AGENDA

7:45am - 7:50am

P60. THREE YEAR ANALYSIS OF A NOVEL MILESTONE-BASED ASSESSMENT OF FACULTY BY GENERAL SURGERY RESIDENTS

*J Schoen MD, RE Brown MD, A Rivere MD, N Bolton MD,
T Smith MD, V Adolph MD, GM Fuhrman MD*

Ochsner Clinic Foundation

Presenter: Jonathan Schoen MD

8:00am - 10:20am

Scientific Session III

Moderator: President, Kelly McMasters MD, PhD, *Louisville, KY*

Room Location: Alhambra B

8:00am - 8:20am

7. UTILITY OF VISCOELASTIC ASSAYS BEYOND COAGULATION: PRE-OPERATIVE TEG INDICES PREDICT TUMOR HISTOLOGY, NODAL DISEASE, AND RESECTABILITY IN PATIENTS UNDERGOING PANCREATECTOMY

*HB Moore, A Paniccia, PJ Lawson, R Torphy, EE Moore,
MD McCarter, RD Schulick, BH Edil*

University of Colorado School of Medicine

Presenter: Hunter Moore MD

Invited Discussant: Jason Fleming MD, *Tampa, FL*

8:20am - 8:40am

8. PROLONGED OPIOID USE AFTER GENERAL SURGICAL PROCEDURES IN THE UNITED STATES

S Radpour MA, E Ross MD, D Ring MD PhD, CVR Brown MD

Dell Seton Medical Center

Presenter: Sepeadeh Radpour MA

Invited Discussant: G. Edward Kimm Jr. MD, *Denver, CO*

SCIENTIFIC AGENDA

8:40am - 9:00am

9. ITERATIVE REDESIGN OF WEB-BASED ENTRUSTABLE PROFESSIONAL ACTIVITY ASSESSMENTS

CI Anderson, MSA, M Ali, MS, MSU GOAL Consortium

Michigan State University

Presenter: Cheryl Anderson RN, BSN, MSA

Invited Discussant: R. James Valentine MD, *Nashville, TN*

9:00am - 9:20am

10. CONVENTIONAL EPIDURAL VERSUS TRANSVERSUS ABDOMINIS PLANE BLOCK WITH LIPOSOMAL BUPIVACAINE IN COLORECTAL SURGERY

MD Torgeson DO, JL Kileny MD, CC Pfeifer DO, L Narkiewicz MD, SH Obi DO

Henry Ford Allegiance Health

Presenter: Matthew Torgeson DO

Invited Discussant: Michael B. Ujiki, MD, Evanston, IL

9:20am - 9:40am

11. CIRCULATING LEPTIN - POTENTIAL PREDICTOR OF MALIGNANT IPMN RISK

MT Yip-Schneider PhD, R Carr MD, H Wu BS, H Fan MD, R Simpson MD, Z Liu PhD, M Korc MD, CM Schmidt MD PhD, J Zhang MD PhD

Indiana University School of Medicine

Presenter: Rachel Simpson MD

Invited Discussant: Taylor S. Riall, MD, PhD, Tucson, AZ

SCIENTIFIC AGENDA

9:40am - 10:00am

12. UTILIZATION OF SHORT COURSE RADIATION IMPROVES COMPLETION RATE OF TRIMODALITY THERAPY AND OVERALL SURVIVAL FOR RESECTABLE METASTATIC RECTAL CANCER

H Chung MD, ML Silveira MD, Pj Parikh MD, MG Mutch MD, J Vetter MS, SC Glasgow MD, PE Wise MD, SR Hunt MD
Washington University in Saint Louis

Presenter: Haniee Chung MD

Invited Discussant: Nabil Wasif MD, MPH, *Phoenix, AZ*

10:00am - 10:20am

13. DEFINING THE COST SAVINGS BENEFIT OF ENHANCED RECOVERY

ME Egger MD, CH Davis MD, BJ Kim MD, N Narula MD, CD Tzeng MD, YS Chun MD, C Conrad MD, JN Vauthey MD, TA Aloia MD

University of Texas MD Anderson Cancer Center

Presenter: Michael Egger MD, MPH

Invited Discussant: Charles Woodall, MD, MSc, *Springfield, MO*

SCIENTIFIC AGENDA

10:40am - 12:20pm

Scientific Session IV

Moderator: Karen Borman MD, *Washington DC*

Room Location: Alhambra B

10:40am - 11:00am



14. ATTENUATION OF THE VOLUME-OUTCOME RELATIONSHIP FOR MAJOR CANCER SURGERY IN THE UNITED STATES - IS A PUSH TOWARDS CONTINUED REGIONALIZATION JUSTIFIED?

*N Wasif MD MPH, D Etzoni MD MS, A Mathur MD MS,
E Habermann MPH PhD, Y Chang PhD*

Mayo Clinic Arizona

Presenter: Nabil Wasif MD, MPH

Invited Discussant: Waddah Al-Refaie MD, *Washington, DC*

11:00am - 11:20am

15. PRIMARY HYPERPARATHYROIDISM, REDEFINING CURE

*AV Rudin MD, TJ McKenzie MD, RA Wermers MD, GB Thompson MD,
ML Richards MD*

Mayo Clinic

Presenter: Anatoliy Rudin MD

Invited Discussant: Shelby Holt MD, *Dallas, TX*

SCIENTIFIC AGENDA

11:20am - 11:40am

16. PREOPERATIVE CHEMORADIATION INDUCES PRIMARY-TUMOR COMPLETE RESPONSE MORE FREQUENTLY THAN CHEMOTHERAPY ALONE IN GASTRIC CANCER

N Ikoma MD, P Das MD MPH, M Blum MD, JS Estrella MD, HC Chen PhD, X Wang MS, KF Fournier MD, P Mansfield MD, CL Roland MD, J Cormier MD MPH, JA Ajani MD,

BD Badgwell MD MS

University of Texas MD Anderson Cancer Center

Presenter: Naruhiko Ikoma MD

Invited Discussant: Margo Shoup MD, *Warrenville, IL*

11:40am - 12:00pm

17. EVALUATING MASTECTOMY SKIN FLAP NECROSIS IN THE EXTENDED BREAST RECONSTRUCTION RISK ASSESSMENT (BRA) SCORE FOR ONE-YEAR PREDICTION OF PROSTHETIC RECONSTRUCTION OUTCOMES

Nora Hansen MD, Sasa Espino MD, Jordan T Blough BS, Michael M Vu BS, Neil A Fine MD, John YS Kim MD

Northwestern Memorial Hospital

Presenter: Sasa-Grae Espino MD

Invited Discussant: Maggie DiNome MD, *Los Angeles, CA*

SCIENTIFIC AGENDA

12:00pm - 12:20pm

18. CEREBRAL EDEMA AND NEUROLOGICAL RECOVERY AFTER TRAUMATIC BRAIN INJURY (TBI) IS WORSENERD IF IT IS ACCOMPANIED BY A CONCOMITANT BONE FRACTURE

Y Suto MD, PhD, S Ahmed MD, K Nagata MD, V Johnson MD PhD, L Kaplan MD, DH Smith MD, JL Pascual MD PhD

University of Pennsylvania

Presenter: Yujin Suto MD

Invited Discussant: Jason Smith MD, PhD, *Louisville, KY*

12:30pm - 1:30pm

Video Session & Lunch (*Pre-registration required*)

Moderator: Anton Bilchik MD, PhD, *Santa Monica, CA*

Room Location: Alhambra B

12:40pm - 12:50pm

Video 1. REOPERATIVE LAPAROSCOPIC LYSIS OF ADHESIONS, REDUCTION OF RECURRENT TYPE IV HIATAL HERNIA WITH INTRATHORACIC STOMACH AND HERNIATED OMENTUM, TAKE DOWN OF NISSEN FUNDOPLICATION, PRIMARY CRURAL CLOSURE AND REINFORCEMENT WITH MESH, TOUPET FUNDOPLICATION

Robert Mauro Van Haren MD, Farzaneh Banki MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Robert Mauro Van Haren MD

SCIENTIFIC AGENDA

12:50pm – 1:00pm

Video 2. TIPS AND TRICKS IN PERFORMING OPEN, LAPAROSCOPIC, AND ROBOTIC LYMPH NODE DISSECTION OF STATION 6 IN GASTRIC CANCER

Ajay V Maker MD, Vijay K Maker MD

University of Illinois at Chicago

Presenter: Ajay Maker MD

1:00pm - 1:10pm

Video 3. REOPERATIVE LAPAROSCOPIC LYSIS OF ADHESIONS, TAKE DOWN OF TOUPET FUNDOPLICATION, PRIMARY CRURAL CLOSURE AND LAPAROSCOPIC REPAIR OF POSTOPERATIVE GASTRIC LEAK

Andrew D Cantor MD, Farzaneh Banki MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Andrew D Cantor MD

1:10pm – 1:20pm

Video 4. ROBOT ASSISTED LAPAROSCOPIC SINGLE-SITE ADRENALECTOMY

Mayo Clinic

Presenter: Nimesh Naik MD

1:20pm – 1:30pm

Video 5. LAPAROSCOPIC MANAGEMENT OF SMALL BOWEL VOLVULUS WITH EXTENSIVE BOWEL NECROSIS

University of Arizona

Presenter: Hassan Aziz MD

SCIENTIFIC AGENDA

12:30pm – 1:30pm

Women in Surgery Luncheon

Room Location: Prado Patio

1:30pm -3:30pm

Bringing the Social Media Revolution to Health Care

Panelists: Tyler Hughes MD, Lee A. Aase, Farris Timimi MD

Room Location: Alhambra B

3:45pm - 4:15pm

Quick Shots

Moderator: William Chapman MD, St. Louis, MO

Room Location: Alhambra B

Quick Shot Presentations

3:45pm - 3:55pm

QS4. PANCREATECTOMY WITH ARTERIAL RESECTION: PERIOPERATIVE OUTCOMES OF 100 CASES

*MJ Truty MD MSc, MC Tee MD, AC Krajewski MD, RT Groeschl MD,
KP Croome MD, RL Smoot MD, ML Kendrick MD, SP Cleary MD,
MB Farnell MD, DM Nagorney MD*

Presenter: Mark Truty MD, MSc

SCIENTIFIC AGENDA

Quick Shot Presentations

3:55pm - 4:05pm

QS5. COSTS OF DONATION AFTER CARDIAC DEATH ORGANS ARE HIGHER DUE TO INABILITY TO PREDICT TIME TO DONOR DEATH AND ORGAN SUITABILITY FOR TRANSPLANT

*J Lindeman MD, LA Dageforde MD MPH, N Vachharajani BS,
E Stahlschmidt BS, D Brockmeier MA, JR Wellen MD, AS Khan MD,
WC Chapman MD, MBM Doyle MD*

Presenter: Leigh Anne Dageforde MD, MPH

Quick Shot Presentations

4:05pm – 4:15pm

QS6. ROBOTIC VENTRAL HERNIA REPAIR IS ASSOCIATED WITH LOW PERIOPERATIVE MORBIDITY AND OFFERS A MORE VERSATILE TECHNICAL APPROACH WHEN COMPARED TO CONVENTIONAL LAPAROSCOPY

*JA Zaman MD, BJ Keys MD, S Pierre BS, A Ata PhD, M Tafen MD,
SC Stain MD, TP Singh MD*

Presenter: Jessica Zaman MD

4:15pm – 4:45pm

Changes in Physician Leadership and Physician Leadership Education

Michael J. Stahl, PhD

Room Location: Alhambra B

4:45pm – 5:45pm

WSA Annual Business Meeting (WSA Members Only)

Room Location: Alhambra B

SCIENTIFIC AGENDA

TUESDAY, NOVEMBER 7, 2017

7:30am - 9:20am

Scientific Session V

Moderator: Newly Elected President

Room Location: Alhambra B

7:30am - 7:50am



19. DAY OF HOSPITAL ADMISSION AND EFFECT ON OUTCOMES; “THE WEEKEND EFFECT” IN PATIENTS WITH ACUTE GALLSTONE PANCREATITIS

*F Jehan MD, M Khan MD, T O’Keeffe MD, A Jain MD,
G Vercauysse MD, L Gries MD, A Tang MD, N Kulvatunyou MD,
B Joseph MD*

University of Arizona

Presenter: Faisal Jehan MD

Invited Discussant: Michael Farnell MD, *Rochester, MN*

7:50am - 8:10am

20. PATIENT-CENTERED OUTCOMES FOLLOWING LAPAROSCOPIC PARAESOPHAGEAL HERNIA REPAIR

*K Kuchta MS, J Linn MD, S Haggerty MD, W Denham MD,
R Joehl MD, M Ujiki MD*

NorthShore University HealthSystem

Presenter: Tyler Hall BA

Invited Discussant: Benjamin Jarman MD, *La Crosse, WI*

SCIENTIFIC AGENDA

8:10am - 8:30am

21. CHEST AND PELVIS X-RAYS AS A SCREENING TOOL FOR ABDOMINAL INJURY IN GERIATRIC BLUNT TRAUMA PATIENTS

BJ Emigh MD MSc, PG Teixeira MD, S Ali MPH, IA Tabas MPH, CVR Brown MD

The University of Texas at Austin

Presenter: Brent Emigh MD, MSc

Invited Discussant: Ali Salim MD, *Boston, MA*

8:30am - 8:50am

22. GUARDIANS OF THE GALAXY: A PROFILE OF APPLICANTS AND SUBSEQUENT PGY1 TRAINEES OF CATEGORICAL GENERAL SURGERY PROGRAMS (2013-2016)

AN Cobb MD, MC Kuo BA, PC Kuo MD

Loyola University Medical Center

Presenter: Adrienne Cobb MD

Invited Discussant: Leigh Neumayer MD, MS, *Tucson, AZ*

8:50am - 9:10am

23. CIRCULATING MELANOMA CELLS ARE ASSOCIATED WITH RELAPSE IN STAGE IV MELANOMA PATIENTS

A Lucci MD, C Hall PhD, J Bowman Bauldry BA, J Upshaw BS, R Royal MD, M Ross MD

University of Texas MD Anderson Cancer Center

Presenter: Anthony Lucci MD

Invited Discussant: David Sheldon MD, *Kalispell, MT*

SCIENTIFIC AGENDA

9:20am - 9:50am

Nonie Lowry Oration

David Nagorney MD, *Rochester, MN*

Chasing Hepatic Metastases

Room Location: Alhambra B

9:50am - 11:15am

Scientific Session VI

Moderator: Newly Elected President

Room Location: Alhambra B

9:50am - 10:10am

24. REBOA: IMPLEMENTATION AND PRELIMINARY RESULTS AT AN ACADEMIC LEVEL 1 TRAUMA CENTER

MD Darrabie MD, CA Croft MD, SC Brakenridge MD, AM Mohr MD, MD Rosenthal MD, FA Moore MD, RS Smith MD

University of Florida

Presenter: Marcus Darrabie MD

Invited Discussant: Will Fry MD, *Lafayette, CO*

10:10am - 10:30am

25. PROGNOSTIC FACTORS INFLUENCING SURVIVAL IN SMALL BOWEL NEUROENDOCRINE TUMOR WITH LIVER METASTASIS

N Manguso MD, N Nissen MD, A Harit BS, J Mirocha MS,

A Hendifar MD, F Amersi MD

Cedars-Sinai Medical Center

Presenter: Nicholas Manguso MD

Invited Discussant: Eddie Abdalla MD, *Atlanta, GA*

SCIENTIFIC AGENDA

10:30am - 10:50am

26. RISK FACTORS OF ANASTOMOTIC LEAK FOLLOWING BARIATRIC SURGERY, A MBSAQIP ANALYSIS

R Fazl Alizadeh MD, S Li MD PhD, CS Inaba MD, MW Hinojosa MD, BR Smith MD, MJ Stamos MD, NT Nguyen MD

University of California Irvine Medical Center

Presenter: Reza Fazl Alizadeh MD

Invited Discussant: John Morton MD, MPH, Stanford, CA

10:50am - 11:10am



27. CRURAL CLOSURE REINFORCEMENT WITH PORCINE MESH RESULTS IN FEWER RADIOGRAPHIC RECURRENCE AND HIGHER PATIENT SATISFACTION COMPARED TO SYNTHETIC MESH, IN THE SHORT-TERM, FOLLOWING LAPAROSCOPIC REPAIR OF LARGE HIATAL HERNIAS

Juan Santamaria-Barria MD, Kaushik Chandni, David Roife MD, Charles C Miller PhD, Farzaneh Banki MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Juan Santamaria-Barria MD

Invited Discussant: Peter Crookes MD, *Los Angeles, CA*

PRESIDENTIAL ADDRESS



Kelly M. McMasters, MD, PhD

University of Louisville | Louisville, KY

Dr. McMasters is the Ben A. Reid, Sr. Professor and Chair of the Hiram C. Polk, Jr., MD Department of Surgery, University of Louisville School of Medicine, and Director of the Multidisciplinary Melanoma Clinic, James Graham Brown Cancer Center,

Louisville, Kentucky. He earned his MD at the University of Medicine and Dentistry of New Jersey Robert Wood Johnson School of Medicine and his PhD in Cell and Developmental Biology from Rutgers University. He completed his Fellowship in Surgical Oncology at the University of Texas—MD Anderson Cancer Center in Houston. He is the author and Principal Investigator of the Sunbelt Melanoma Trial, a multi-institutional study involving 3,500 patients from 79 institutions across North America. His research has been funded by the American Cancer Society, the National Institutes of Health, and the Melanoma Research Foundation, among other agencies. He has two patents for his own research inventions. Dr. McMasters is currently President of the Society of Surgical Oncology and the Western Surgical Association, Secretary of the Southern Surgical Association (2014-2019), and Vice President of the Society of Surgical Chairs. He was a member of the Melanoma Staging Committee of the American Joint Commission on Cancer and is former President of the Southeastern Surgical Congress (2009-2010). He has authored more than 400 publications and is Editor of the book *Hepatocellular Carcinoma: Targeted Therapy and Multidisciplinary Care*.

BRINGING THE SOCIAL MEDIA REVOLUTION TO HEALTHCARE



Lee A. Aase

Mayo Clinic | Rochester MN

Lee Aase is director of the Mayo Clinic Social Media Network, which provides training resources, educational and networking events and a collaboration platform for healthcare professionals who want to safely and effectively apply social and digital strategies to fight disease, promote health and improve healthcare.

By night, Lee is Chancellor of Social Media University, Global (SMUG), a free online higher education institution that provides practical, hands-on training in social media for lifelong learners. He has been inducted into the Healthcare Internet Hall of Fame, and HealthLeaders Media named him to its list of “20 People Who Make Healthcare Better.” In 2014 he was appointed to a two-year term on the World Economic Forum (WEF) Global Agenda Council on Social Media, and in 2016 he was appointed to WEF’s Global Future Council on the Future of Information and Entertainment. He was elected to Mayo Clinic’s Voting Staff in 2016.

Prior to joining Mayo Clinic in 2000, Lee spent more than a decade in political and government communications at the local, state and federal level.

BRINGING THE SOCIAL MEDIA REVOLUTION TO HEALTHCARE

continued



Farris K. Timimi, MD

Mayo Clinic | Rochester MN

Farris Timimi, MD, is an Assistant Professor of Medicine at the Mayo Clinic College of Medicine, and a Consultant in Cardiovascular Diseases and Internal Medicine at the Mayo Clinic. He serves as Medical Director for the Mayo Clinic Center for Social Media. He also serves as the Director of the Cardiology Education Clinic; as Cardiology Physician Education Coordinator for the Internal Medicine Residency and as the Program Director for the Advanced Heart Failure and Transplant Fellowship Program. In addition, Dr. Timimi is the physician lead for the Division of Cardiovascular Disease One Voice initiative, as well as the institutional lead for patient-family advisory councils.

Dr. Timimi received his bachelor's and medical degrees from East Tennessee State University. He completed his internship and residency in Internal Medicine at Washington University in St. Louis, Missouri; his fellowship in Cardiovascular Medicine and Interventional Cardiology at Brigham and Women's Hospital, Harvard Medical School; and a separate fellowship in Interventional Vascular Radiology, Vascular Medicine, and Vascular Ultrasound at Mayo Clinic.

Specialties: Social Media, Media Relations, Podcasting, Blogging, Facebook, YouTube, Twitter, Advanced Heart Failure and Transplant Cardiology, Medical Education, Patient Family Advisory Councils, Patient Centered Care

BRINGING THE SOCIAL MEDIA REVOLUTION TO HEALTHCARE

continued



Tyler G. Hughes, MD

Kansas University School of Medicine | Kansas City, KS

Dr. Hughes a General Surgeon from McPherson, Kansas and a Clinical Professor of Surgery at Kansas University School of Medicine. After graduating from Southwestern Medical School he completed a residency in General Surgery in 1983 from St. Paul Hospital in Dallas. He has been in the practice of general surgery since that time. In 1995 he moved to McPherson Kansas to pursue his interest in rural surgery. He is currently a Director of the American Board of Surgery, Editor in Chief of the ACS Web Portal, and Co-Editor of ACS Surgery News. He is a former Governor of the American College of Surgeons and was the first Chair of the Advisory Council for Rural Surgery. Since his appointment to the teaching faculty at KU, Salina branch Dr. Hughes' primary efforts are on medical student education (he is Director of Medical Education on the Salina Campus) and early surgical career development as well as assisting students and residents interested in rural practice. As Editor of the ACS Communities he administers the over 100 Communities in that system.

CHANGES IN PHYSICIAN LEADERSHIP AND PHYSICIAN LEADERSHIP EDUCATION



Michael J. Stahl, PhD

Michael J. Stahl is Professor Emeritus of Business in the Haslam College of Business at the University of Tennessee. He teaches strategy and business planning in the Physician Executive MBA Program. From 1998-2015, he served as Director of the Physician EMBA Program. That program was rated by Modern Physician and Modern Healthcare magazines in 2004-2015 as the #1 Preferred MBA Program Exclusively for Physicians. Dr. Stahl received his B.S. in Electrical Engineering from the State University of NY at Buffalo and his Ph.D. in Management from Rensselaer Polytechnic Institute. As an Air Force Officer in the early 1970s, he was a program manager on the design of a communications satellite at the Space and Missile Systems Organization in Los Angeles. From 1982-1989, Mike was Head of the Management Department at Clemson University. He was Associate Dean in the College of Business at UT from 1989-1997. Dr. Stahl has published over 50 journal articles in a variety of areas including Strategic Management, Total Quality, and Healthcare, as well as 13 books including Strategic Management, Perspectives in TQ, The Physician's Essential MBA, and The Encyclopedia of Health Care Management. From 2000-2007, Mike served on the Board of Catholic Charities of East Tennessee, and chaired the Board's Planning Committee. From 2008-2011, he served on the Board of the St. Joseph Health System in Lexington, KY and was a member of the Board's Finance, Physician Transaction Review, and Strategic Planning Committees. He has served on the Finance Committee of the Board of Catholic Charities of East Tennessee since 2012. Mike was elected President of that Board for a two-year term, 2015-2017. In 2014, he became a charter member of the American Board of Administrative Medicine in Tampa.

NONIE LOWRY ORATION



David M. Nagorney, MD

Mayo Clinic | Rochester, MN

Dr. David M. Nagorney was born and raised in Kansas City, Kansas in the United States of America. He graduated from the University of Kansas, the University of Kansas Medical School, and the Mayo Clinic College of Medicine in Rochester, Minnesota. He served as a Research Fellow in Gastrointestinal Physiology at the Mayo Graduate School of Medicine. He was selected as a Mayo Foundation Scholar and completed an HPB fellowship at the Royal Postgraduate Medical School, Hammersmith Hospital in London, England. His general surgical career has focused on benign and malignant gastrointestinal and hematological diseases. Currently his clinical focus is directed to primary and metastatic hepatobiliary diseases and the interface between resection and transplantation for hepatic surgery. He is a Professor of Surgery in the Department of Surgery at Mayo Clinic Rochester and is the Program Director for the Hepato-Pancreatico-Biliary Surgical Fellowship at the Mayo Clinic Rochester.

Dr. Nagorney has been on the Editorial Board of the following: American Journal of Surgery, Annals of Surgical Oncology, Gastroenterology, HPB Surgery, Journal of Gastrointestinal Surgery, Liver Transplantation, Mayo Clinic Proceedings, Surgery, and Surgical Oncology.

His societal memberships include: the American College of Surgeons, American Gastroenterological Association, American Surgery Association, American Liver Foundation, Americas Hepato-Pancreato-Biliary Association, Central Surgical Association, International Hepato-Pancreato-Biliary Association, Minnesota Surgical Society, North Central Cancer Treatment Group, Sigma XI, Society for Surgical Oncology, Priestley Society, American Association for the Study of Liver Diseases, and Western Surgical Association.

He is the author of over 410 peer-reviewed articles and book chapters and has traveled both nationally and internationally for presentations and invited lectures. The management of patients with hepatic metastases, cholangiocarcinoma and polycystic liver disease comprise his primary clinical interests currently.



ORAL ABSTRACTS



Aust Award Candidate

ORAL ABSTRACTS



1. EFFECT OF MARGIN CONSENSUS GUIDELINE IMPLEMENTATION ON RE-EXCISION RATES, SATISFACTION, AND COST FOR EARLY STAGE INVASIVE BREAST CANCER

N Bhutiani MD, KC Bachman MD, MK Mercer BA, SR Heidrich BA, RCG Martin II MD PhD, CR Scoggins MD MBA, KM McMasters MD PhD, N Ajkay MD
University of Louisville

Presenter: Nicolás Ajkay MD

Invited Discussant: Nora Hansen MD, Chicago, IL

Background: The 2014 Society of Surgical Oncology – American Society of Radiation Oncology consensus guideline on margins for breast conservation surgery with whole-breast irradiation for stage I-II breast cancer defined no tumor on ink as an adequate margin for invasive carcinoma. Its purpose was to decrease re-excision rates, improve cosmetic outcomes, and decrease health care costs. We sought to compare these parameters before and after implementation of these guidelines at an academic institution.

Methods: An IRB approved, prospectively maintained database was queried for patients with stage I and II invasive carcinoma who underwent partial mastectomy. Patients diagnosed by excisional biopsy and those who received neoadjuvant chemotherapy were excluded. Patients were divided into two groups based on whether they were treated before or after March 1, 2014: pre-consensus (PRE) or post-consensus (POST). The groups were compared with respect to re-excision rates, conversion to mastectomy, specimen volumes, average cost per patient of surgical care, and prospectively-collected patient post-procedure quality of life (QOL). Average cost was calculated using Center for Medicare and Medicaid Services procedure cost data and QOL was based upon patient responses to the breast satisfaction domain of the BRESTQ survey tool.

Results: A total of 237 patients who underwent partial mastectomy were examined: 126 in the PRE group and 111 in the POST group. Patients in the POST group were less likely to require re-excision (4/111 (4%) vs. 32/126 (26%) PRE, $p < 0.001$) and were less likely to undergo conversion to mastectomy (6/111 (5%) POST vs. 18/126 (14%) PRE, $p = 0.02$). A non-significant trend was also noted toward smaller final resection volume in the POST group (51.5 cm³ (range 9-216) POST vs. 81.0 cm³ (range 2.4-950) PRE, $p = 0.05$). After consensus guideline implementation, average operative cost per patient decreased (\$4247 POST vs. \$5465 PRE, $p < 0.001$), and patients had improved satisfaction with breast QOL scores (77/100 POST vs. 61/100 PRE, $p = 0.03$). On multivariate analysis, implementation of the consensus statement was an independent predictor of decreased re-excision rates (Odds Ratio (OR) 0.17, 95% CI 0.08-0.38, $p < 0.001$) and operative cost per patient (OR = 0.14, 95% CI 0.07-0.30, $p < 0.001$). It was not an independent predictor of decreased total resection volume, likelihood of conversion to mastectomy, or improved breast QOL scores.

Conclusion: Implementation of the 2014 margin guidelines resulted in a significant decrease in the number of re-excisions and operative costs at an academic institution. They also decreased conversion to mastectomy and improved patient satisfaction with their breast after surgery on univariate analysis. Widespread implementation of the consensus guidelines on margins for breast conservation surgery will likely lead to the intended improvements in operative, financial, and cosmetic aspects of breast conservation surgery.

ORAL ABSTRACTS

2. DO ALL POSITIVE MARGINS IN BREAST CANCER PATIENTS UNDERGOING A PARTIAL MASTECTOMY NEED TO BE RESECTED?

AB Chagpar MD MSc MPH MA MBA, TN Tsangaris MD, DR Lannin MD

Yale University School of Medicine

Presenter: Anees Chagpar MD, MSc, MPH, MA, MBA

Invited Discussant: Nicolas Ajkay MD, Louisville, KY

Background: Positive margins have been reported in 20-40% of patients undergoing a partial mastectomy (PM), often resulting in re-excision. How often the re-excision yields further cancer and whether there are predictors of residual disease remains unknown.

Methods: The SHAVE trial randomized patients undergoing a PM to have additional cavity shave margins (CSM) excised or not. We evaluated patients who had a positive margin (defined as tumor at ink for patients with invasive disease or within 1 mm for patients with DCIS) prior to randomization to determine the rate of additional disease either in CSM or at re-excision.

Results: Of the 235 patients in the trial, 82 (34.9%) had a positive margin prior to randomization. 43 of these patients were randomized to the “shave” arm; however, 12 patients of these patients did not have the positive margin shaved (6 anterior, 4 posterior, 1 both, and 1 other). Resection of the anterior and posterior margins was left to the discretion of the surgeon for patients randomized to the “shave” arm. Of the 39 patients who had a positive margin and were randomized to the “no shave” group, 12 did not undergo re-excision (3 anterior, 3 posterior, 6 other). The remaining 58 patients positive margin patients who either had CSM or re-excision formed the cohort of analysis. Median patient age was 59.5 years. The mean number of positive margins was 1.8 (range: 1-6); 62% of patients had only one positive margin. 21 patients (36.2%) had residual disease. On bivariate analysis, residual disease was more commonly associated with younger patient age (median 51 vs. 62 years, $p=0.007$) and presence of high grade DCIS (57.1% vs. 31.3% for grade 2 and 0% for grade 1, $p=0.025$). Of the 29 patients who were under the age of 60, further disease was found in 15 (51.7%); only 6 (20.7%) of the 29 patients who were ≥ 60 years of age had residual disease, $p=0.028$. Factors found not to be associated with further disease included patient race, ethnicity, BMI, volume of resection, number of positive margins, extent of DCIS, and extent, grade, and histologic subtype of invasive cancer. On multivariate analysis, patient age < 60 remained a significant predictor of residual disease after resection of a positive margin (OR=3.920; 95% CI: 1.081-14.220, $p=0.038$).

Conclusion: Positive margins at the conclusion of PM are associated with further disease in over a third of patients, and aside from young age, there are no predictors of this. These findings support continued re-excision of positive margins, particularly in patients < 60 years of age.

ORAL ABSTRACTS

3. GENDER DIFFERENCES IN LONG-TERM PATIENT-CENTERED OUTCOMES AFTER TRAUMA

JP Herrera-Escobar MD, A Ranjit MD MPH, C Weed MD MPH, SS Al Rafai MD, K Brasel MD MPH, G Kasotakis MD MPH, H M.A Kaafarani MD MPH, G Velmahos MD PhD, AH Haider MD MPH, A Salim MD

Brigham and Women's Hospital

Presenter: Juan Pablo Herrera-Escobar, MD

Invited Discussant: Peter Rhee MD, MPH, Atlanta, GA

Background: Gender-related variation in post-injury pathophysiology and socio-cultural factors impacting immediate recovery after trauma have been suggested in prior studies; less is known about the association between gender and trauma-specific long-term outcomes. We sought to determine if disease-specific long-term trauma outcomes varied significantly by gender.

Methods: Trauma patients with Injury Severity Score [ISS] ≥ 9 , admitted to three Level I trauma centers were identified retrospectively and contacted 6- or 12-months post-injury to evaluate: Health-Related Quality of Life, functional status, and posttraumatic stress disorder (PTSD). Multivariable logistic regression models adjusted for confounders (age, ISS, mechanism of Injury, length of stay) and clustered by facility were used to compare long-term functional status, pain, and PTSD between female and male patients at 6- and 12-months post-injury.

Results: 651 patients completed follow-up: 347 at 6-months and 304 at 12-months. 46% were female. In the 12-months post-injury cohort, females were significantly ($p < 0.05$) older (68 vs 50 years old), with lower ISS (13 vs 15), lower hospital length of stay (6 vs 8 days), and a lower proportion of penetrating (2% vs 11%) and motor-vehicle accident (23% vs 33%) injuries compared to males. Similarly in the 6-months after injury cohort, females were significantly older (65 vs 54 years old) and with a lower proportion of penetrating (1% vs 4%) and motor-vehicle accident injuries (26% vs 34%). However there were no significant differences in ISS (female: 13 vs men: 14) and hospital length of stay (female: 6 vs male: 7 days) in this cohort. At 6-months post-injury, compared to males, female patients were more likely to have at least one physical limitation for daily-activities (OR: 1.98 CI: 1.19-3.27), have pain on a daily basis (OR: 1.45 CI: 1.17-1.80), take pain medications daily (OR: 1.87 CI: 1.11-3.16), and screen positive for PTSD (OR: 1.79 CI: 1.33-2.40). At 12-months, females had higher odds (OR: 1.49 CI: 1.20-1.85) of having at least one physical limitation for daily-activities compared to males while the other differences were not found in this cohort.

Conclusion: There are significant gender differences in long-term trauma outcomes, which were predominantly found in the 6-months after injury cohort. Future research should explore gender-specific management strategies to achieve optimal long-term trauma outcomes for both genders.

ORAL ABSTRACTS



4. COMPLICATIONS AND HEALTH RELATED QUALITY OF LIFE AFTER LIVING LIVER DONATION: A SINGLE-CENTER ANALYSIS OF 171 DONORS

S Chinnakotla MD MBA, V Kirchner MD, O Serrano, MD MBA, S Mongin Ph D, T Pruett MD
University of Minnesota

Presenter: Srinath Chinnakotla MD MBA

Invited Discussant: William Chapman MD, St. Louis, MO

Background: Living liver donation is one of the most selfless and humane acts a person can perform. Several reports from the Far East, and one multicenter report from the United States, have described complications after living donor hepatectomy; however, few single-center reports have been published specifically evaluating quality of life post donation. In this large single-center study, our primary aim was to assess the complications and quality of life postdonation, in order to help prospective donors, transplant candidates, and their families make an informed decision.

Methods: We studied complications and long-term quality of life in 171 living liver donors. At our center, complications are recorded in a prospectively maintained database. To evaluate liver specific donor morbidity, we used an internally designed donor-specific survey (DSS) and for generic health, the 36-item Short Form Health Survey (SF-36). To test potential predictors of a Clavien Grade 2 complication or of a higher complication rate, we used multivariate logistic regression models.

Results: Of our 171 living donors (86 men, 85 women), 136 underwent a right-lobe hepatectomy without middle hepatic vein; 14 Right lobe with middle hepatic vein, 3 left lobe and 18 left lateral segmentectomy. Their mean age was 37 ± 9.5 years; mean body mass index, 25.9 ± 3.7 kg/m². The median operating time was 7.8 hours; mean blood loss, 443 ± 222 cc. Only 3 (1%) of the donors required an intraoperative blood transfusion. The median length of hospital stay was 7 days. The median follow-up time was 4.8 years. The postoperative complication rate was 43.8% (Clavien classification grade 1, n = 27; grade 2, n = 30; grade 3, n = 8; and grade 4 or 5, n = 0). Complications included bile leaks, n = 5; bleeding requiring a blood transfusion, n = 3; ileus, n = 24; pleural effusion, n = 9; urinary tract infection, n = 4; arrhythmia, n = 3; respiratory failure, n = 1; pancreatitis, n = 1; pneumonia, n = 1; and renal failure, n = 1. We noted a trend toward a lower complication rate in left-lobe (vs. right-lobe) hepatectomy donors. Our multivariate logistic model showed that the era from 2009 on was associated with an increased incidence of Clavien grade 2 complications. The DSS was completed by 110 donors; the SF-36, by 65 donors. Incisional discomfort was the most common postdonation symptom (34%). On the DSS, 91.6% of donors scored their experience on a scale of 1 to 10 (with 10 being the most positive) as higher than 8. Per the SF-36, quality of life in donors was greater than in the normal standard population ($P \leq 0.05$). There was no association with lower QoL scores and early post operative complications ($P > 0.05$).

Conclusion: In our large single-center study, our early complication rates were comparable to those of multicenter series. Majority of complications (87%) were Clavien grade 1 and 2. Over a long follow-up period (4.8 years), our donors continue to have improved quality of life, as compared with the general population.

ORAL ABSTRACTS



5. THE CURRENT TOKYO GUIDELINES ARE NOT CLINICALLY RELEVANT FOR THE DIAGNOSIS AND MANAGEMENT OF CHOLECYSTITIS

F Jehan MD, B Joseph MD, M Dacey MD, N Kulvatunyou MD, M Khan MD, A Tang MD, L Gries MD, T O'Keeffe MD, T Riall MD PhD

University of Arizona

Presenter: Faisal Jehan MD

Invited Discussant: Gary Vitale MD, Louisville, KY

Background: It is recommended that the revised Tokyo Guidelines (TG13) be used to diagnose, grade severity, and guide management of acute cholecystitis (AC). The aim of our study was to verify the diagnostic criteria, severity assessment, and management-protocols based on TG13. We hypothesized that TG13 diagnostic criteria lacks sensitivity for the diagnosis of AC and patients with moderate to severe AC can be safely managed with early cholecystectomy.

Methods: Our prospectively maintained Emergency General Surgery registry was utilized to review patients who had surgical consultation for RUQ pain (2013-2015). Physician notes, laboratory findings and final pathology reports were extracted from the charts. Diagnosis and severity were graded based on TG13 and compared with pathology report. Our institutional management protocols were compared to TG13. Sensitivity of TG13 in diagnosing AC was calculated.

Results: A total of 952 patients were analyzed, of which 857 had biliary diseases. Mean age was 42 ± 18 y and 67% were female. 779 had cholecystectomy, 15 underwent cholecystostomy-tube placement, and 63 patients refused surgery. Only 4% were febrile on presentation and 51% of patients had leukocytosis. The most sensitive finding for AC was RUQ tenderness (92%), followed by murphy's sign (72%). 45% patients did not have any signs of AC on ultrasonography. TG13 criteria had a sensitivity of 53% for diagnosing AC (definitive: 27%, suspected 26%, undiagnosed: 47%) when compared with the final pathology report. TG13 grading resulted in, 414 grade-I, 400 grade-II, and 43 grade-III patients. 92.5% of patients with grade-I underwent early cholecystectomy, as recommended by the TG13 guidelines. For grade-II and grade-III the TG13 recommends conservative management followed by delayed/elective cholecystectomy. However, 89.3% grade-II and even 50% of grade-III safely underwent cholecystectomy at our institute. There was no difference between the complications (3.7% vs. 4.7%, $p=0.81$), return to the OR (0.6% vs. 0.7%, $p=0.95$) and mortality (0.3% vs. 0%, $p=0.96$) between grade-I and grade-II who underwent early cholecystectomy.

Conclusion: The TG13 diagnostic criterion lacks sensitivity and missed more than half of the patients with AC, as many patients lack clinical signs (fever and leukocytosis). The TG13 recommendations for conservative management and delayed cholecystectomy in grades II and III disease are not warranted and our data suggests that the vast majority can be managed with early cholecystectomy. Revision of the Tokyo guidelines or constructing a better algorithm to improve clinical utility is necessary.

ORAL ABSTRACTS

6. WHAT ARE THE MOST SIGNIFICANT COST AND VALUE DRIVERS FOR PANCREATIC RESECTION IN AN INTEGRATED HEALTHCARE SYSTEM?

B Vuong MD MHA, A Dehal MD, AN Graff-Baker MD, S Stern MS, J Mejia MD, R Wolf MD, P Newell MD, R Weerasinghe MPH, V Kapoor MS, P Hansen MD, A Bilchik MD

John Wayne Cancer Institute at Providence Saint John's Health Center

Presenter: Brooke Vuong MD MHA

Invited Discussant: Mark Talamonti MD, Evanston, IL

Background: Pancreatectomy is associated with high morbidity and expense. Several studies have recommended that pancreatectomy should be performed in high volume centers. As the third largest not-for-profit healthcare system in the United States, we have begun an initiative to improve value based care within the electronically integrated hospitals. The goal of this study is to evaluate specific cost and value drivers comparing low volume pancreas surgeons (<10 pancreaticoduodenectomies (PDs)/year) with high volume surgeons (≥ 10 PDs/year) and its influence on outcomes.

Methods: The direct costs of surgical equipment, medications, anesthesia, ICU admission, room and board, laboratory tests, blood transfusion, and imaging studies were calculated in all patients undergoing distal pancreatectomy (DP) and pancreaticoduodenectomy (PD) between January 2014 and December 2016. This was then compared with average length of stay (ALOS), 30-day mortality and readmission rate stratified by surgeon volume. This data is presented bimonthly at a hepatobiliary (HPB) clinical performance group via a videoconference.

Results: There were 205 DPs and 431 PDs performed in 14 hospitals spanning five states. Distal pancreatectomies costs were less for high volume surgeons, \$16,040 compared to \$20,277 ($P=0.04$). Specific increased costs for low volume surgeons included imaging (\$311 vs \$141, $P=0.006$); laboratory exams (\$1,369 vs \$906, $P=0.01$); and room and board (\$5,789 vs \$3,654, $P=0.03$). ALOS of 7.0 days vs 13.7 days ($p=0.005$) was less for high volume surgeons for DP. The average overall direct cost of \$24,539 per PD was not significantly different for high volume surgeons compared to \$26,829 for low volume surgeons ($P=0.27$). ALOS was lower for high versus low volume surgeons performing PD, 11.6 days vs 14.5 days ($P=0.04$). Operating time was increased with high volume surgeons for both DP ($P<0.001$) and PD ($P<0.001$). There was no difference in readmission or 30-day mortality for either DP or PD when stratified by surgeon volume.

Conclusion: There was a significant cost reduction for DP but not PD when the threshold of 10 PDs was used as a marker for a high volume surgeon, suggesting that the definition of a high and low volume surgeon may need to be defined differently for distal pancreatectomy and pancreaticoduodenectomy. This is the first study to examine the detailed costs and value drivers for individual surgeons performing pancreatic surgery. The sharing of detailed financial data with HPB surgeons on a regular basis provides the opportunity to evaluate practice patterns and thereby reduce direct costs. Further studies are needed to determine whether high volume pancreas cancer centers are more cost effective than individual surgeons performing PD.

ORAL ABSTRACTS

7. UTILITY OF VISCOELASTIC ASSAYS BEYOND COAGULATION: PRE-OPERATIVE TEG INDICES PREDICT TUMOR HISTOLOGY, NODAL DISEASE, AND RESECTABILITY IN PATIENTS UNDERGOING PANCREATECTOMY

HB Moore, A Paniccia, PJ Lawson, R Torphy, EE Moore, MD McCarter, RD Schulick, BH Edil
University of Colorado School of Medicine

Presenter: Hunter Moore MD

Invited Discussant: Jason Fleming MD, Tampa, FL

Background: Since the 1860's hypercoagulability and malignancy have been linked. However, the impact of different neoplasms on the multiple components of the coagulation system remains poorly understood. Thrombelastography (TEG) enables the measurement of different components of coagulation ranging from clotting factors to fibrinolysis. We hypothesize that specific TEG indices are associated with hypercoagulability in patients with adenocarcinoma undergoing pancreatic resection.

Methods: Patients undergoing pancreaticoduodenectomy or distal pancreatectomy were prospectively enrolled over a 16-month period. Blood samples were obtained before surgical incision and assayed with TEG. The four indices of coagulation measure by TEG included in the analysis were R time (minutes - coagulation factors) Angle (degrees - fibrinogen function) MA (mm - platelets function) and LY30 (% - fibrinolysis). Outcomes included tumor type, nodal metastasis, complete pathologic resection, and thrombotic complications. Statistical analysis contrasted groups with Mann-Whitney U analysis and receiver operating characteristic (ROC) curves.

Results: One-hundred patients were enrolled with 20% of patients undergoing distal resection, and 17% completing neoadjuvant therapy prior to surgery. The majority of patients (n=63) had a pathologic diagnosis of adenocarcinoma (ACA), followed by neuroendocrine tumors (n= 15 NET), IPMN (N=11), or inflammatory/pre-cancerous lesions (N=11). Angle was significantly elevated in patient with ACA compared to other lesions (49° vs 43 p=0.011). When excluding patients that underwent neoadjuvant therapy, patients with ACA had shorter R-times (12.5 min vs 14.2 P=0.051), steeper angles (49° vs 43 p=0.010), and higher MA (67mm vs 62 p=0.017) compared to other lesions. An increased angle (49° vs 41 p=0.007) and MA (64 vs 62 p=0.017) were associated with nodal disease. A shorter R-time (10.1min vs 14.0 p=0.033) and Angle (44° vs 58 p=0.025) were associated with successful surgical resection of the mass. This persisted in patients that underwent neoadjuvant therapy in which R time performed well (ROC areas under the curve 0.825) to predict resectability, which was greater than Ca19-9 (0.673). TEG variables were not associated with deep venous thrombosis, but several (R-time 8.2min vs 11.1 p=0.020, Angle 58° vs 45 p=0.044, and LY30 0.0 vs 0.4 p=0.022) were associated with post-operative pulmonary embolism.

Conclusion: Patients with adenocarcinoma undergoing pancreatic resection have multiple TEG abnormalities consistent with hypercoagulability that include indices associated with coagulation factor, fibrinogen, and platelets. These multiple TEG outputs are associated with nodal disease and probability of a successful resection. The use of pre-operative TEG has the potential to aid surgeons and patient's discussion on anticipated disease burden and prognosis prior to resection, in addition to risk stratifying patients for post-operative pulmonary embolism and warrant continued investigation.

ORAL ABSTRACTS

8. PROLONGED OPIOID USE AFTER GENERAL SURGICAL PROCEDURES IN THE UNITED STATES

S Radpour MA, E Ross MD, D Ring MD PhD, CVR Brown MD

Dell Seton Medical Center

Presenter: Sepeadeh Radpour MA

Invited Discussant: G. Edward Kimm Jr. MD, Denver, CO

Background: Though opioids date back centuries, there has been a recent increase in the use and abuse of a variety of opioids. These include prescription opioids, heroin, as well as opioid antagonists. The frequency of physicians prescribing opioids has increased significantly in recent decades. In the past, most physicians would avoid opioids to treat chronic pain in non-cancer patients for fear of addiction, overdose, and lack of effect. However, in the early 1980's, there was a surge of journal articles and editorials purporting the safety of opioids in the treatment of chronic pain in non-cancer patients. This change in mindset led to the widespread practice of identifying and treating pain at all costs, making treatment of pain a priority with little or no regard for abuse, overdose, and death from opioid medications. In the late 1990's and early 2000's, this change in mindset led to a sharp increase in the availability, non-medical use, and abuse of prescription opioids in this country.

Methods: To determine the rate of new, persistent opioid use in the post-operative general surgical population, we performed a retrospective analysis of a national, private claims database (Truven Marketscan) for several common general surgical procedures (hernia repair, appendectomy, cholecystectomy, colectomy, and simple mastectomy). We tested the null hypothesis that the rate of new, persistent opioid use in post-operative surgical patients would be equal to the rate seen in the general population. The primary aim of this study is to define the incidence of ongoing opioid use in adult patients that were not taking regular opioids in the year prior to surgery by determining the rate of opiate prescriptions between 90 and 180 days after surgery compared to a control group that did not undergo surgery of any type.

Results: There were 14,773,229 patients in the database that had no operation, 2.8% of them had prolonged opiate use and served as the control group. Prolonged opiate use following each procedure included hernia repair (5.1%, Odds Ratio: 1.75, 95% CI: 1.71-1.80, $p<0.001$), appendectomy (5.1%, Odds Ratio: 1.75, 95% CI: 1.68-1.83, $p<0.001$), cholecystectomy (6.1%, Odds Ratio: 2.22, 95% CI: 2.17-2.27, $p<0.001$), colectomy (12.2%, Odds Ratio: 4.15, 95% CI: 4.02-4.29, $p<0.001$), and simple mastectomy (26.1%, Odds Ratio: 8.9, 95% CI: 8.56-9.30, $p<0.001$).

Conclusion: Prolonged opiate use is increasingly common, especially following general surgical procedures. Different surgical procedures have different rates of prolonged opiate use. Undergoing a general surgical procedure is a risk factor for prolonged opioid use, and future research should be aimed at delineating the patient, procedure, and physician factors responsible. This study confirms the importance of and need for increased surveillance of patients prescribed opiates in the post-operative period.

ORAL ABSTRACTS

9. ITERATIVE REDESIGN OF WEB-BASED ENTRUSTABLE PROFESSIONAL ACTIVITY ASSESSMENTS

Cl Anderson, RN BSN MSA, M Ali, MS, MSU GOAL Consortium

Michigan State University

Presenter: Cheryl Anderson RN, BSN, MSA

Invited Discussant: R. James Valentine MD, Nashville, TN

Background: It is increasingly important for faculty to document timely, formative and continuous feedback of surgical trainee performance, given summative (commercialized) assessments often yield low compliance. Unfortunately, summative evaluation tools are not intended to assess resident performance based on daily workplace or entrustable professional activities (EPAs). We initiated a multi-center study to assess select observed resident activities. Through iterative changes, we sought to increase the use/type of timely formative assessments of EPAs while engaging residents in their education.

Methods: A web-based platform was developed for consented faculty (n=87) and residents (n=149) from 7 U.S. training programs to enter assessments from any computer/smart phone with Internet access. Operative performance was assessed using the perioperative briefing/ intraoperative teaching/debriefing model where residents selected preoperative learning objectives, postoperatively self-reflected and received surgeon feedback. Both participants then independently recorded the exchange, rating resident performance using Operative Performance Rating System validated tools within 2 weeks of observation. Resident skills observed during patient encounters (PE, ex.clinics) and academic performances (AP, ex.M&Ms) were later added and assessed by faculty using newly developed tools with behaviorally-anchored ordinal scales. Data were sent to a central repository, analyzed and reported. Iterative changes were made based on participant feedback, individual preferences, and database refinements.

Results: Participants submitted 2952 assessments from Jul2014-Jun2017. Faculty/residents entries averaged 54 and 44 assessments/month respectively (40 procedures; 10 PE/AP/month from surgeons; 34 procedures/month from residents). The timeliness of entries (initially unrestricted) was reduced from 14 to 3 days post-observation day following Plan/Do/Check/Act improvements, increasing day-of-procedure entries by 40.0%. Design iterations evolved from open text boxes for documentation, viewed in a vertical (scrolling) layout to radio buttons, dropdown menus, and horizontal viewing. Faculty views added 3 "clicks" once entries focused on 13 key procedures and resident clicks were reduced by 28.6%. Automated emails with prepopulated demographic data increased faculty-resident matched entries by 9.1%. A search engine optimization process enhanced website visibility and program director portals allowed access to live data. One program reduced summative evaluations of residents by 39% and resident evaluations of surgeons by 74% in one year.

Conclusion: We were able to successfully assess resident performance of daily professional activities and sustain participation over 30 months. Multiple iterations resulted in more timely entries, precise feedback to identify programmatic/individual learning needs (previously reported) and resident engagement. Database improvements eased submission efforts with continued iterations planned.

ORAL ABSTRACTS

10. CONVENTIONAL EPIDURAL VERSUS TRANSVERSUS ABDOMINIS PLANE BLOCK WITH LIPOSOMAL BUPIVACAINE IN COLORECTAL SURGERY

MD Torgeson DO, JL Kileny MD, CC Pfeifer DO, L Narkiewicz MD, SH Obi DO
Henry Ford Allegiance Health

Presenter: Matthew Torgeson DO

Invited Discussant: Michael B. Ujiki, MD, Evanston, IL

Background: Colorectal surgery is a focus of enhanced recovery programs (ERP). The utility of Transversus Abdominis Plane (TAP) block for abdominal surgery has been demonstrated to be effective in ERP, however no direct comparison of epidural versus TAP block have been published. We hypothesized that TAP block is equivalent to epidural anesthesia with regards to length of stay (LOS) and return of bowel function in colorectal surgery.

Methods: Patients undergoing open and laparoscopic colorectal surgery were randomized into epidural (n=39) or TAP block (n=44) groups prior to surgery. Anesthesiologists performed respective blocks in the pre-operative area using a standardized methodology. Following surgery, patients were initiated on an ERP pathway with standardized discharge criteria. Five patients unable to complete ERP due to postoperative complications or technical factors were excluded from the analysis.

Results: The populations of the two study arms were found to be statistically similar for age, gender, BMI, ASA classification, and operative factors of temperature, parenteral fluids, operative time and fascial incision length. Return of bowel function was equivalent in patients with epidural compared with TAP block (POD 1.7 vs POD 1.9). Length of stay was lower in TAP group (POD 3.3 vs 2.8 p=0.023). Urinary retention occurred with higher frequency in patients with epidural (30% vs 15% p=0.11). Post-operative nausea was greater in the TAP group (14% vs 33% p=0.057).

Conclusion: TAP using liposomal bupivacaine offers an effective alternative to epidural anesthesia in appropriately selected patients for endpoints of length of stay, readmission indices, and return of bowel function. Use of TAP was associated with a 0.5 hospital day reduction in length of stay. Early indication favors TAP block in patients with urinary retention and epidural in patients with history of post-operative nausea and vomiting.

ORAL ABSTRACTS

11. CIRCULATING LEPTIN - POTENTIAL PREDICTOR OF MALIGNANT IPMN RISK

MT Yip-Schneider PhD, R Carr MD, H Wu BS, H Fan MD, R Simpson MD, Z Liu PhD, M Kore MD, CM Schmidt MD PhD, J Zhang MD PhD

Indiana University School of Medicine

Presenter: Rachel Simpson MD

Invited Discussant: Taylor S. Riall, MD, PhD, Tucson, AZ

Background: Pancreatic cancer is now the 3rd leading cause of cancer related death in the United States. The most common type of mucinous pancreatic cyst that may progress to pancreatic cancer is known as intraductal papillary mucinous neoplasm (IPMN). While IPMNs with low or moderate grade dysplasia are considered to be at low risk of malignant transformation, those with high grade dysplasia are at increased risk. However, there are currently no accurate, reliable means of distinguishing between cysts which can be safely monitored from those which should be resected. We hypothesize that blood concentrations of leptin, an adipokine involved in metabolic regulation, may aid in differentiating between low and high risk IPMN to optimize clinical management.

Methods: Plasma or serum was collected from consenting patients undergoing pancreatic resection. Diagnosis was confirmed by surgical pathology, and dysplastic grade was determined according to World Health Organization criteria. Of the 148 total cases of IPMN included in this study, 93 were classified as low/moderate grade, 33 as high grade, and 22 as invasive. Leptin levels were determined by enzyme-linked immunoassay and correlated with surgical pathology. Correlation of leptin with low and high risk IPMN as well as with demographic and clinical characteristics was analyzed.

Results: Circulating leptin levels (mean \pm SEM) were significantly higher in patients with low/moderate IPMN than high grade/invasive IPMN (17523 ± 2629 vs. 10084 ± 1375 pg/ml, respectively; $p=0.013$). Although leptin was found to correlate with both BMI (positive correlation; $p<0.001$) and gender (higher leptin in females; $p<0.001$), neither BMI nor gender was significantly different between low/moderate and high grade/invasive IPMN groups. Radiographic main duct involvement was significantly more common among patients with high grade/invasive IPMN ($p=0.01$); however, there were no significant differences in all other tested clinical variables (age, hemoglobin A1c, and cyst size) between groups. Leptin and ductal involvement were each independent predictors of dysplastic grade on multivariate regression analysis. When further stratified by gender, mean leptin levels in males ($n=74$) was not significantly different between low/moderate and high/invasive IPMNs (6459 ± 1400 vs. 5759 ± 1057 pg/ml, respectively; $p=0.69$) but was significant in females ($n=74$, 27457 ± 4384 vs. 15275 ± 2384 pg/ml, respectively; $p=0.017$).

Conclusion: Circulating leptin levels are elevated in patients with low/moderate grade compared to high grade/invasive IPMN, specifically in females. This suggests that circulating leptin may be a useful plasma/serum biomarker to predict malignant risk of IPMN and thus improve clinical decision-making.

ORAL ABSTRACTS

12. UTILIZATION OF SHORT COURSE RADIATION IMPROVES COMPLETION RATE OF TRIMODALITY THERAPY AND OVERALL SURVIVAL FOR RESECTABLE METASTATIC RECTAL CANCER

H Chung MD, ML Silveira MD, PJ Parikh MD, MG Mutch MD, J Vetter MS, SC Glasgow MD, PE Wise MD, SR Hunt MD

Washington University in Saint Louis

Presenter: Haniece Chung MD

Invited Discussant: Nabil Wasif MD, MPH, Phoenix, AZ

Background: Patients with resectable metastatic rectal cancer who are treated with curative intent require trimodality therapy (systemic chemotherapy, radiation [XRT] and surgery). While traditional long course chemoradiation requires 5 weeks of treatment followed by a 6-8 week waiting period prior to surgery, short course XRT can be delivered over 5 days followed by immediate surgery. We hypothesized that the use of short course XRT in this population would allow for a higher rate of treatment completion and more expeditious delivery of all components of trimodality therapy.

Methods: In this retrospective study, we identified rectal cancer patients with metastatic disease who received trimodality therapy with curative intent between 2000 and 2014. Completion of trimodality therapy was defined as delivery of the appropriate fractions of radiation (5 for short course, 25-28 for long course), completion of 12 cycles of systemic chemotherapy, and surgical resection of the primary tumor. Patient demographics, comorbidities, treatment details, tumor characteristics, metastatic sites, metastatic burden and TNM staging were analyzed. End points included overall survival, rate of completion and time to completion of trimodality therapy.

Results: 143 patients with resectable metastatic rectal adenocarcinoma received neoadjuvant XRT as part of a trimodality treatment regimen with curative intent. Of these, 103 patients had complete data for analysis. By intention to treat, 69 patients received long course and 34 received short course XRT. On univariate analysis, the short course treatment group had a higher rate of trimodality therapy completion compared to the long course group (74% vs 48%, $p=0.013$). After adjusting for age and comorbidities, multivariable regression confirmed a higher rate of trimodality therapy completion with short course XRT ($p=0.007$). For the 58 patients who completed trimodality therapy, the median time to complete treatment was 42 weeks for short course and 50 weeks for long course XRT ($p=0.081$). With a median follow up of 2.9 years, Kaplan-Meier analysis showed improved survival in the short course XRT group ($p=0.035$). Cox proportional analysis for overall survival demonstrated a hazards ratio of 0.37 for short course XRT (95% CI 0.16-0.84, $p=0.018$).

Conclusion: This study shows that neoadjuvant short course radiation for the curative treatment of resectable metastatic rectal cancer improves the rate of completion of trimodality therapy and overall survival. Additionally, short course XRT in this population may shorten time to complete trimodality therapy. Further studies should characterize the clinical and financial benefits of short course XRT.

ORAL ABSTRACTS

13. DEFINING THE COST SAVINGS BENEFIT OF ENHANCED RECOVERY

ME Egger MD, CH Davis MD, BJ Kim MD, N Narula MD, CD Tzeng MD, YS Chun MD, C Conrad MD, JN Vauthey MD, TA Aloia MD

University of Texas MD Anderson Cancer Center

Presenter: Michael Egger MD, MPH

Invited Discussant: Charles Woodall, MD, MSc, Springfield, MO

Background: Previous studies have demonstrated that Enhanced Recovery programs are associated with reduced complications, improved postoperative quality of life, and faster recovery. Cost savings related to these programs and the specific costs areas that are affected are not known.

Methods: 212 patients undergoing hepatectomy from 02/2012-09/2016 at a single center, 72 in an Enhanced Recovery in Liver Surgery (ERLS) program and 140 patients treated using a Traditional Recovery (TR) program, were compared. The ERLS protocol included patient education, narcotic-sparing anesthesia and analgesia, rapid diet advancement, restrictive fluid use, early ambulation, and avoidance of drains and tubes. Clinical outcomes and 30-day perioperative costs were compared between the two groups. Cost data included professional and hospital costs, accounting for overhead and resources using a consistent institutional methodology.

Results: The ERLS pathway was used in 49% (49/99) of minor hepatectomies and 20% (23/113) of major hepatectomies. Regarding pain control, 48% (32/66) of patients prescribed a PCA underwent ERLS and 27% (40/146) of patients treated with an epidural had ERLS. Median length of stay (LOS) was less in ERLS vs. TR (5 vs. 6 days, $p=0.001$). Thirty-day morbidity rates were similar between the two groups (ERLS 4.2%, TR 7.1%, $p=0.55$), and there were no 90-day mortalities in either group. Overall, ERLS patients incurred 9.1% lower costs ($p=0.001$). Major cost differences were attributed to lab (-15.0%, $p=0.001$), room and board (-13.9%, $p=0.0001$), and professional costs (-19.3%, $p>0.001$). In subgroup analysis, no cost differences were seen between ERLS and TR in major hepatectomy, with epidural analgesia, or in patients with length of stay >5 days. In the 99 minor hepatectomy patients, ERLS patients incurred 17.6% lower overall costs ($p=0.020$), with major cost differences attributed to lab (-17.6%, $p=0.011$), room and board (-12.7%, $p=0.013$), and professional costs (-18.0%, $p=0.010$). Compared to patients treated with a PCA + TR, those treated with a PCA + ERLS incurred 32.0% lower overall costs ($P<0.001$). In this subgroup analysis, the cost differences were due to 34.3% lower lab ($p<0.001$), 33.3% lower room and board ($p<0.001$), 51.6% lower professional costs ($p<0.001$), and 22.5% lower pharmacy costs ($p=0.011$). In the 105 patients with a length of stay less than 6 days, overall costs were 28.2% lower in ERLS vs. TR patients ($p<0.001$). Again, lab (-27.5%, $p<0.001$), room and board (-22.4%, $p<0.001$), and professional costs (-47.8%, $p<0.001$) were all lower in the ERLS group in this subgroup analysis.

Conclusion: This study demonstrates significant cost savings and lower resource utilization in patients undergoing ERLS compared to TR for liver surgery, most pronounced in patients undergoing minor hepatectomy, in those without epidural analgesia, and patients with LOS <6 days.

ORAL ABSTRACTS



14. ATTENUATION OF THE VOLUME-OUTCOME RELATIONSHIP FOR MAJOR CANCER SURGERY IN THE UNITED STATES - IS A PUSH TOWARDS CONTINUED REGIONALIZATION JUSTIFIED?

N Wasif MD MPH, D Ezoni MD MS, A Mathur MD MS, E Habermann MPH PhD, Y Chang PhD
Mayo Clinic Arizona

Presenter: Nabil Wasif MD, MPH

Invited Discussant: Waddah Al-Refaie MD, Washington, DC

Background: The association of higher surgical volumes with lower post-operative mortality has led to calls for regionalization of complex cancer surgery in the United States. However, given the simultaneous national trend towards improved surgical outcomes and lower postoperative mortality overall, this relationship may have attenuated.

Methods: The Nationwide Inpatient Sample (NIS) was used to identify patients with bladder, esophageal, pancreatic, lung, and rectal cancer undergoing surgery from 2003-2011. Hospitals were divided into low (<33rd centile), medium (34th-66th) and high (>67thcentile) volume groups. Annual cancer specific adjusted in-hospital mortality (AIHM) was calculated and the difference in AIHM between low and high volume hospitals (using bootstrapping to generate confidence intervals) plotted over three time periods 2003-2005, 2006-2008 and 2009-2011. Risk adjustment was performed by controlling for and age, sex, race, Elixhauser comorbidity score, insurance, income and surgery type.

Results: Our study population consisted of 183,850 patients with bladder (12%), esophageal (4%), pancreatic (8%), lung cancer (43%), and rectal cancer (33%). Regionalization was seen over the time period of the study, reflected by an increase in the proportion of patients undergoing surgery at a high volume hospital for all cancers studied. AIHM following surgery was significantly higher in low volume compared to high volume hospitals in 2003-2005 for all cancer types, with the exception of patients with rectal cancer. The difference in AIHM between low and high volume hospitals narrowed from 2003-2005 to 2009-2011 for pancreatic (4.54% [95% CI 4.51-4.95%] to 1.24% [95% CI 1.01-1.47%]), esophageal (3.81% [95% CI 3.15-4.50%] to 2.61% [95% CI 2.10-3.13%]), bladder (1.23% [95% CI 1.08-1.37%] to 0.74% [95% CI 0.59-0.89%]) and lung cancer patients (1.80% [95% CI 1.67-1.92%] to 1.05% [95% CI 0.96-1.13%]), primarily due to a greater improvement in in-hospital mortality for low volume hospitals. For rectal cancer patients the difference in AIHM was low and stable (0.53% [95% CI 0.45-0.61%] to 0.53% [0.46-0.59%]).

Conclusion: The difference in AIHM between low and high volume hospitals decreased for 4 out of 5 solid organ cancers requiring major surgery from 2003-2011. This was primarily due to a greater decline in post-operative mortality for low compared to high volume hospitals. Whether these trends will continue or represent a plateau for improvement of peri-operative care has implications for continued regionalization of cancer surgery.

ORAL ABSTRACTS

15. PRIMARY HYPERPARATHYROIDISM, REDEFINING CURE

AV Rudin MD, TJ McKenzie MD, RA Wermers MD, GB Thompson MD, ML Richards MD

Mayo Clinic Rochester

Presenter: Anatoliy Rudin MD

Invited Discussant: Shelby Holt MD, Dallas, TX

Background: Primary hyperparathyroidism is the most common cause of hypercalcemia in the outpatient population. The classic diagnosis is established by the presence of hypercalcemia with an inappropriately elevated PTH level, in the absence of other causes of hypercalcemia. Preoperative localization and intraoperative parathyroid hormone assay have modernized the surgical management of this disease. Cure rate for primary hyperparathyroidism has been reported to be 93–100% and has been defined as normocalcemia at 6 months. The follow up to confirm normal calcium postoperatively and at 6 months is resource intensive and costly. The aim of this study was to determine if there is a subset of patients who can be defined as cured earlier than 6 months.

Methods: This was a retrospective study of patients who underwent parathyroidectomy between January 2012 and March 2014. Patients with history of MEN syndrome, secondary or tertiary hyperparathyroidism were excluded. Patients with normal preoperative calcium, PTH and those without 6 months follow up were excluded. Patient were divided into two groups, Cured and Not cured. Preoperative sestamibi scan was correlated to intraoperative findings, and labeled as concordant (TP), wrong location (FP) or negative (FN) for each group. Comparison analysis was performed between the two groups, examining age, gland weight, imaging concordance, preoperative PTH, intraoperative PTH, intraoperative cure (decrease of baseline PTH by 50% to normal or near normal PTH level), and 6 months cure rate.

Results: A total of 509 patients were screened, 214 met our inclusion criteria, 202 in the cure category and 12 in no cure (94% cure rate). 205 out of 214 (96%) had intraoperative cure. There was no significant difference between age 62 vs 62 ($p=0.48$), gland weight 753 mg vs 478mg ($p=0.15$) or preoperative PTH 133 pg/ml vs 123 pg/ml ($p=0.33$). There was a statistically significant difference between final intraoperative PTH 37 vs 55 ($p=0.008$) and percent PTH decrease 69% vs 43% ($p < 0.0001$). There was a significant difference between intraoperative cure rate ($p < 0.0006$), imaging concordance ($p=0.0115$) and solitary vs multiglandular disease ($p=0.0151$). Subgroup analysis in patients with concordant imaging, solitary parathyroid adenoma and intraoperative PTH decrease by 50% to normal or near normal correlated with a 6 months cure rate of 97%.

Conclusion: Patients with primary hyperparathyroidism who have concordant imaging, single adenoma pathology, and their intra-operative PTH decrease by 50% to normal or near normal (15-65 pg/ml) can be considered cured, and may not need further laboratory follow up.

ORAL ABSTRACTS

16. PREOPERATIVE CHEMORADIATION INDUCES PRIMARY-TUMOR COMPLETE RESPONSE MORE FREQUENTLY THAN CHEMOTHERAPY ALONE IN GASTRIC CANCER

N Ikoma MD, P Das MD MPH, M Blum MD, JS Estrella MD, HC Chen PhD, X Wang MS, KF Fournier MD, P Mansfield MD, CL Roland MD, J Cormier MD MPH, JA Ajani MD, BD Badgwell MD MS

University of Texas MD Anderson Cancer Center

Presenter: Naruhiko Ikoma MD

Invited Discussant: Margo Shoup MD, Warrenville, IL

Background: After the MAGIC trial showed a survival benefit from perioperative chemotherapy, the use of preoperative chemotherapy significantly increased in the United States over the past 10 years. However, the benefit of preoperative chemoradiation (CXRT) over preoperative chemotherapy alone ("chemotherapy" hereafter) is unknown and is currently under investigation in the TOPGEAR trial. We investigated whether preoperative CXRT improves pathologic complete response rate in the primary tumor (ypT0) compared with preoperative chemotherapy in patients with gastric cancer by analyzing the National Cancer Database (NCDB).

Methods: In total, 168,377 patients with gastric tumors were reported in the NCDB during 2004-2014. Patients with non-metastatic gastric adenocarcinoma who underwent CXRT or chemotherapy followed by gastrectomy were included in this study. Patients who did not have pathologic T category data were excluded. Incidences of ypT0 were compared between the CXRT and chemotherapy groups. Logistic regression models were used to adjust for the effects of other tumor and treatment variables. Since patient characteristics significantly differed between the treatment groups, propensity score matching was used. We applied one-to-one matching based on the nearest neighbor method with a caliper width 0.2 of the standard deviation of the logit of the propensity score. Then, a conditional logistic regression model was used for the matched cohorts to compare incidences of ypT0 between the CXRT and chemotherapy groups.

Results: We identified 8,464 patients with gastric cancer who underwent preoperative CXRT or chemotherapy followed by gastrectomy. The median age was 63 years, 76% were male, and 79% were white. White patients more frequently had tumors in the cardia (78%) and more frequently received CXRT (61%) compared with other race groups ($p < 0.001$). ypT0 was observed in 16.1% (95% confidence interval [CI], 15.0-17.2%) of patients who received CXRT and 6.6% (95% CI, 5.8-7.4%) of patients who received chemotherapy ($p < 0.001$). On multivariable logistic regression, CXRT was associated with a higher ypT0 rate (odds ratio [OR] 2.13, 95% CI 1.78-2.55; $p < 0.001$). Other variables associated with complete response were age, American Joint Committee on Cancer clinical stage, tumor location, and duration of chemotherapy. Race, sex, facility type, radiation therapy type (advanced [intensity-modulated radiation therapy, 3D conformal radiation therapy, or proton therapy] vs. conventional techniques), and radiation dose were not associated with ypT0. Propensity score matching yielded 1,720 pairs and notably improved the similarity of the groups. In the conditional multivariate logistic regression model, CXRT was associated with a higher incidence of ypT0 (OR 2.01, 95% CI 1.64-2.57; $p < 0.0001$).

Conclusion: In this retrospective cohort study of gastric cancer patients from the NCDB, CXRT was associated with a higher incidence of ypT0 compared with chemotherapy.

ORAL ABSTRACTS

17. EVALUATING MASTECTOMY SKIN FLAP NECROSIS IN THE EXTENDED BREAST RECONSTRUCTION RISK ASSESSMENT (BRA) SCORE FOR ONE-YEAR PREDICTION OF PROSTHETIC RECONSTRUCTION OUTCOMES

Nora Hansen MD, Sasa Espino MD, Jordan T Blough BS, Michael M Vu BS, Neil A Fine MD, John YS Kim MD

Northwestern Memorial Hospital

Presenter: Sasa-Grae Espino MD

Invited Discussant: Maggie DiNome MD, Los Angeles, CA

Background: The rates of mastectomy for breast cancer treatment and immediate breast reconstruction continue to rise, and with increasing scrutiny on health care outcomes and patient satisfaction, there is an impetus for providers to be more deliberate in deciding appropriate patient selection for breast reconstruction. As such, there is increased use of surgical risk calculators, now with an emphasis on longer-term follow-up and outcomes. The Breast Reconstruction Risk Assessment (BRA) Score was developed for prediction of complications after primary prosthetic breast reconstruction, focusing on calculating risk estimations for a variety of complications based on individual patient demographics and perioperative characteristics. Mastectomy skin flap necrosis (MSFN) was not specifically studied in the expansion of the BRA Score XL calculator to predict 1-year outcomes. Previous research has demonstrated necrosis and wound breakdown lead to a number of postoperative challenges. In this study, we evaluate MSFN as a function of patient characteristics to further validate the BRA Score XL.

Methods: We examined our prospective intra-institutional database of prosthetic breast reconstructions from 2004-2015. Patients lost to follow-up before 1 year were excluded. Pertinent patient variables for risk modeling included age, BMI, smoking status, radiation therapy, and various medical comorbidities. Outcomes of interest were 1-year occurrence of MSFN following stage I tissue expander placement. Using logistic regression modeling, risk was calculated based on individual patient factors. Internal validity was assessed using C-statistic for discrimination, Hosmer-Lemeshow (H-L) test for calibration, and Brier score for predictive accuracy.

Results: 903 patients were included; 50% underwent bilateral reconstruction. Median follow-up was 23 months. Average 1-year complication rates were: MSFN (12.4%), seroma (3.0%), infection (6.9%), dehiscence/exposure (7.1%), and explantation (13.2%). Statistically significant higher rates of MSFN were found in older patients, smokers, patients with postoperative infections, hypertension and the use of aspirin. The administration of neoadjuvant or adjuvant chemotherapy and radiation, diabetes and postoperative seroma formation did not have a statistically significant impact on necrosis rates.

Conclusion: Mastectomy skin flap necrosis poses significant challenges to both patients and surgeons, potentially resulting in clinical and psychological comorbidities, delays in adjuvant therapy and increased health care costs. The BRA Score was expanded to estimate complication risk following tissue expander placement up to one year postoperatively. The risk of mastectomy skin flap necrosis as calculated by the BRA Score XL is consistent with previously published studies demonstrating increased risk with specific comorbidities and thus further validates the expansion of the BRA Score XL risk calculator.

ORAL ABSTRACTS

18. CEREBRAL EDEMA AND NEUROLOGICAL RECOVERY AFTER TRAUMATIC BRAIN INJURY (TBI) IS WORSENERD IF IT IS ACCOMPANIED BY A CONCOMITANT BONE FRACTURE

Y Suto MD, PhD, S Ahmed MD, K Nagata MD, V Johnson MD PhD, L Kaplan MD, DH Smith MD, JL Pascual MD PhD

University of Pennsylvania

Presenter: Yujin Suto MD PhD

Invited Discussant: Jason Smith MD, PhD, Louisville, KY

Background: Progression of severe TBI is associated with worsening of leukocyte (LEU)-mediated cerebral inflammation but it is unknown if the concomitant presence of a long bone fracture (BF) affects secondary brain injury progression. Enoxaparin (ENX) decreases penumbral LEU mobilization in isolated TBI and improves neurological recovery. We hypothesized that, as compared to isolated TBI : 1) a concomitant BF increases leukocyte mediated brain tissue inflammation and edema and, 2) ENX reverses this process.

Methods: CD1 male mice underwent TBI (controlled cortical impact (CCI): velocity = 6m/sec, depth =1.0mm) or sham craniotomy with or without tibial fracture, and received either ENX (1mg/kg, 3 times/day) or saline for 2 days following injury. Randomization defined 4 groups (Sham, CCI, CCI+BF, CCI+BF+ENX, n=10/each). 48h after CCI, neurological recovery was assessed with the Garcia Neurological Test (GNT, max score: 18 points), penumbral pial intravital microscopy assessed live recruitment of cerebral circulating LEUs and microvascular leakage and hemoglobin was measured in blood. Brain wet/dry ratio (edema) and pericontusional cerebral polymorphonuclear neutrophil (PMN) sequestration (Ly-6G immunohistochemistry-IHC) were evaluated post-mortem. ANOVA with Tukey's correction determined intergroup significance (p<0.05).

Results: In vivo pial LEU rolling was significantly greater in CCI+BF (45.2±4.8LEUs/100µm/min) than in CCI alone (26.5±3.1, p=0.007), and was significantly suppressed by ENX (23.2±5.5, p=0.003 vs CCI+BF). In vivo LEU adherence was also highest in CCI+BF. Neurovascular permeability was significantly higher in CCI+BF (71.1+/-2.9%) than CCI alone (42.5+/-2.3, p<0.001). GNT scores were lowest in CCI+BF (15.2±0.2) vs. CCI alone (16.3±0.3, p<0.001). Injured brain hemisphere edema was highest in CCI+BF (83.0+/-1.1%) vs. CCI alone (76.6+/-1.2, p=0.02). Hemoglobin was lowest in the CCI+BF+ENX (10.0+0.5g/dl) vs. Sham (12.7+0.6, p=0.026) or CCI alone (12.6+0.5, p=0.034). Post mortem cerebral IHC demonstrated greatest PMN sequestration in CCI+BF (7.2±1.9/cells) vs. Sham (0.2±0.2/cells, p=0.012) in uninjured cerebral territories.

Conclusion: A concomitant long bone fracture worsens TBI-induced cerebral leukocyte mobilization, microvascular leakage and cerebral edema, and further impairs neurological recovery at 48h. ENX suppresses this progression but may increase bleeding. Further study is necessary to determine what local fracture related agents are responsible for systemic dissemination and worsening of cerebral tissue injury progression and recovery.

ORAL ABSTRACTS



19. DAY OF HOSPITAL ADMISSION AND EFFECT ON OUTCOMES; “THE WEEKEND EFFECT” IN PATIENTS WITH ACUTE GALLSTONE PANCREATITIS

F Jehan MD, M Khan MD, T O’Keeffe MD, A Jain MD, G Vercruyse MD, L Gries MD, A Tang MD, N Kulvatunyou MD, B Joseph MD

University of Arizona

Presenter: Faisal Jehan MD

Invited Discussant: Michael Farnell MD, Rochester, MN

Background: Recent studies suggest that patients admitted to medical or surgical service on the weekend have worse outcomes compared to those admitted on weekdays. This is known as “The Weekend Effect.” However, little is known whether this weekend effect occurs in patients with acute gallstone pancreatitis as their management requires many resources and collaboration of the surgeon, nursing staff, anesthesia and gastroenterologist. The aim of our study was evaluate outcomes in patients who are admitted on weekend compared to those admitted on weekday for acute gallstone pancreatitis.

Methods: We analyzed the Nationwide Inpatient Sample (NIS) database from 2010-2012. Patients with acute gallstone pancreatitis who underwent ERCP were included in our study and were divided into two groups those who were admitted on the weekend vs. those admitted on weekday. Our primary outcome measures were time to ERCP, adverse events and mortality. Secondary outcome measures were hospital length of stay, and total cost. Regression analysis was performed.

Results: A total of 4503 patients with acute gallstone pancreatitis who underwent ERCP were included in our study of which 22.5% were admitted on weekend while 77.5% were admitted on a weekday. Mean age was 57 ± 19 years and 57.1% were female. Within 24 hours the rate of ERCP was higher in patients admitted on the weekday compared to those admitted on the weekend (40% vs. 24%; $p < 0.001$). Similarly by 48hours, the rate of ERCP was higher in the weekday group (69% vs. 49%, $p = 0.03$). However, there was no difference in the mortality rate (1.7% vs. 1.9%, $p = 0.75$) or adverse events (8.8% vs. 8.4%, $p = 0.56$) between the two groups. The hospital length of stay (6 days vs. 8.4 days, $p = 0.04$) and the total cost of hospitalization (\$71,577 vs. \$84,982, $p = 0.03$) was lower in the weekday group as compared to the weekend group. On regression analysis, patients admitted on weekday were more likely to undergo ERCP within 48 hours (OR: 1.98, CI 1.3-2.6, $p = 0.01$).

Conclusion: Patients admitted on weekends for acute gallstone pancreatitis experience a delay in getting ERCP with no impact on adverse events and mortality. This leads to a longer hospital stay and increased hospital costs. Service lines with weekend coverage will lead to improved and timely resource utilization and may improve outcomes.

ORAL ABSTRACTS

20. PATIENT-CENTERED OUTCOMES FOLLOWING LAPAROSCOPIC PARAESOPHAGEAL HERNIA REPAIR

K Kuchta MS, J Linn MD, S Haggerty MD, W Denham MD, R Joehl MD, M Ujiki MD
NorthShore University HealthSystem

Presenter: Tyler Hall BA

Invited Discussant: Benjamin Jarman MD, La Crosse, WI

Background: The aim of this study is to investigate patient centered quality of life outcomes in patients undergoing laparoscopic paraesophageal hernia repair at short- and long-term intervals.

Methods: Patients undergoing laparoscopic paraesophageal hernia repair between 2009 – 2016 were offered participation in a prospective quality of life database. Quality of life outcomes were measured using Short Form-36 (SF-36), the Reflux Symptoms Index (RSI), GERD Health Related Quality of Life (HRQL), and dysphagia scores administered pre-operatively and at 3 weeks, 6 months, 1 year, and 2 years post- operatively. Postoperative quality of life outcomes were compared to preoperative baseline scores using paired t-tests. This study was approved by the Institutional Review Board.

Results: A cohort of 146 patients underwent laparoscopic paraesophageal hernia repair and agreed to complete quality of life surveys at multiple time points. Mean age was 68.6 ± 11.3 years and 23.3% of studied subjects were male. The majority of the cohort also underwent laparoscopic fundoplication (94.5%). Mean body mass index was 30.2 ± 5.6 kg/m² and 52.7% reported no history of smoking while 45.2% and 2.1% are former and current smokers respectively. Hernia type frequency was 4.1% type 2, 80.8% type 3, and 11.6% type 4. The median length of stay following surgery was 48 hours (Q1:24 and Q3:72) and the recurrence rate was 10.8%. Significant improvements between baseline and all postoperative time points were seen in RSI (3 weeks: $p < 0.0001$, 6 months: $p = 0.005$, 1 year: $p = 0.0004$, 2 years: $p = 0.002$) and GERD HRQL (3 weeks: $p < 0.0001$, 6 months: $p = 0.0019$, 1 year: $p < 0.0001$, 2 years: $p = 0.0003$). Dysphagia scores were worse at 3 weeks but not significantly different at 6 months, 1 year or 2 years. In addition to RSI and GERD scores, two years post-operative Physical Functioning ($p = 0.016$), Role Limitations-Physical ($p = 0.007$), Social Functioning ($p = 0.034$), and Pain ($p = 0.013$) scores showed significant improvement.

Conclusion: Laparoscopic paraesophageal hernia repair results in significantly improved quality of life as measured by SF-36 at both short- and long-term intervals. Reflux Symptoms Index and GERD HRQL measure scores improved at all postoperative time points. Additionally, patients reported higher levels of physical and social functioning and lower levels of physical role limitations and pain at two years.

ORAL ABSTRACTS

21. CHEST AND PELVIS X-RAYS AS A SCREENING TOOL FOR ABDOMINAL INJURY IN GERIATRIC BLUNT TRAUMA PATIENTS

Bj Emigh MD MSc, PG Teixeira MD, S Ali MPH, IA Tabas MPH, CVR Brown MD

The University of Texas at Austin

Presenter: Brent Emigh MD MSc

Invited Discussant: Ali Salim MD, Boston, MA

Background: Health care resources utilization continues to rise as the elderly population grows. Geriatric trauma patients represent a particular challenge as their injury patterns differ from those seen in younger adults and the elderly are at risk for significant injury after even minor trauma. As a result, low thresholds for abdominal CT utilization in geriatric patients sustaining blunt trauma are common, potentially increasing the number of unnecessary scans. We hypothesized that plain radiographs of the chest (CXR) and pelvis (PXR) obtained in the trauma bay can safely be used to identify geriatric blunt injured patients at low risk of having clinically significant abdominal injuries, for whom additional imaging with CT scan is unnecessary.

Methods: This was a retrospective analysis using the 2014 National Trauma Data Bank (NTDB). All patients ≥ 65 years-old who sustained blunt trauma (falls, ground level fall, motor vehicle and motorcycle crashes, auto versus pedestrian, and assault) were included. CXR was defined as NEGATIVE if none of the following injuries were identified: rib fractures, lung contusions, sternal fractures, diaphragm injuries, and hemo/pneumothorax. PXR were considered NEGATIVE if no pelvic fractures (excluding hip fractures) were identified. Rates of abdominal injuries and need for laparotomies were compared according to plain radiographs findings and stratified by mechanism of injury.

Results: A total of 202,553 elderly blunt trauma patients were available in the dataset and used for the analysis. Mechanism of injury included falls (83%) [83% of which were ground level falls], motor vehicle crash (11%), pedestrian struck by auto (3%), assault (2%), and motorcycle crash (1%). Across the entire population, patients with both NEGATIVE CXR and NEGATIVE PXR were found to have abdominal injuries 1% of the time and 0.3% underwent laparotomy. Patients with injuries found on both CXR and PXR had an associated abdominal injury 27% of the time ($p < 0.0001$) and 8% underwent laparotomy ($p < 0.0001$). Similar significant differences were found when patients were stratified by mechanism of injury.

Conclusion: Regardless of specific mechanism, geriatric blunt injured patients with a normal CXR and PXR rarely sustained an abdominal injury or required a laparotomy. Negative CXR and PXR can be used to identify geriatric patients who may not require additional imaging with an abdominal CT scan after blunt trauma.

ORAL ABSTRACTS

22. GUARDIANS OF THE GALAXY: A PROFILE OF APPLICANTS AND SUBSEQUENT PGY1 TRAINEES OF CATEGORICAL GENERAL SURGERY PROGRAMS (2013-2016)

AN Cobb MD, MC Kuo BA, PC Kuo MD

Loyola University Medical Center

Presenter: Adrienne Cobb MD

Invited Discussant: Leigh Neumayer MD, MS, Tucson, AZ

Background: Categorical general surgery (GenSurg) with its applicant pool and trainees has changed over the past decades. The purpose of this study is to profile contemporary applicants and subsequent matriculants of GenSurg residencies.

Methods: GenSurg applicant and PGY1 trainee data were obtained from ERAS, NRMP, USMLE and AACM for the years 2013-2016. Students t-test or Chi square were used to determine significant differences ($p < 0.05$). As reference, in 2013, Step 1 scores and pctiles were: 48 pctile= 230, 58 pctile=235, 76 pctile=245, and 85 pctile=250; in 2014, Step 2 scores and pctiles were 46 pctile=240, 57 pctile=245, and 68 pctile=250.

Results: For the first time in 2016, GenSurg was #4 among the top 5 most competitive residencies (behind Ortho, Uro, and Derm) as measured by ave apps/applicant. Cross specialty application in which applicants rank programs in more than one specialty is common. In 2015 GenSurg applicants, applied across specialties to Prelim Surgery (59.9%), CatIntMed (34.4%), FamMed (25.4%) and PreIntMed(24.2%). In surgical specialties, cross specialty apps occurred with: ObGyn (9.2%), PlasInt (6.4%), VasInt (5.7%), and Ortho (5.3%). The success rate for US grads for ranking only GenSurg programs was 92.1% (771/837) compared to CatIntMed (98%), Ortho (80%), NeuroSurg (81%), and ENT (82%). In 2013, there were 2415 applicants (33.9% female, 38.1% White/9.9%AA/32.6%Asian/8.6%Hispanic, 3.2%AOA at submission) for 1185 GenSurg spots resulting in 99.6% fill. The subsequent 2014 PGY1 class when parsed among Matched/Unmatched exhibited: Step 1 score (ave)=232/213; Step 2 score=245/226; abstracts/publications/presentation=4.4/2.7; %AOA=4.4/2.7; WorkExp=3.0/3.3, VolunteerExp=6.7/6.5, and %NIH Top 40 school=32.5/15.8. When the 2014 PGY1 GenSurg Match trainees were compared with their Match peers in CatIntMed, PlasInt and NeuroSurg, PlasInt and NeuroSurg trainees had significantly higher Step 1 (245/244) and 2 scores (252/247), abstracts/publications (12.5/11.7), %AOA (39/28), and %NIH Top 40 (46/41); in contrast, CatIntMed was not different from GenSurg. 2015 applicants and subsequent 2016 trainees exhibited statistically "identical" trends, with the exception of higher %AOA for all specialties. On the most recent 2013 survey, applicants ranked the most important factors on a 5-pt scale as: housestaff morale (4.6), quality of faculty (4.5), cultural/racial-ethnic/gender diversity (4.5), AMC (4.4), quality of the program director (4.4) and international experience (4.4).

Conclusion: GenSurg is an increasingly competitive specialty. PGY1 trainees compare well with their CatIntMed peers, but lag behind their PlasInt and NeuroSurg colleagues. Board scores, research productivity (not experiences) in the form of abstracts, presentations and publications, AOA status and NIH top 40 schools distinguish Match from Unmatch applicants. In contrast, work and volunteer experiences are not different. GenSurg remains a desirable and competitive field that is matching capable applicants.

ORAL ABSTRACTS

23. CIRCULATING MELANOMA CELLS ARE ASSOCIATED WITH RELAPSE IN STAGE IV MELANOMA PATIENTS

A Lucci MD, C Hall PhD, J Bowman Bauldry BA, J Upshaw BS, R Royal MD, M Ross MD
University of Texas MD Anderson Cancer Center

Presenter: Anthony Lucci MD

Invited Discussant: David Sheldon MD, Kalispell, MT

Background: Effective management of stage IV melanoma patients remains a challenge. In spite of promising emerging therapies, many patients develop resistance and disease progression. Our group and others have demonstrated that circulating melanoma cells (CMCs) can be detected in a significant number of advanced melanoma patients; however, the prognostic significance of CMCs has not yet been established. The aim of this study was to determine if CMCs are associated with worse relapse-free survival in stage IV melanoma patients.

Methods: A baseline CMC assessment (7.5mL blood) was performed in 67 stage IV cutaneous melanoma patients using the CellSearch® system (Janssen) at the time of Stage IV diagnosis. CD146+ cells were immunomagnetically enriched; CD146+, HMW-MAA+, CD45-, and CD34- nucleated cells were considered CMCs. The presence of ≥ 1 CMC meeting morphological criteria for malignancy was considered a positive result. Data on recurrence was collected by data collectors blinded to CMC assessment results. Log-rank test and Cox regression analysis were applied to establish the association of CTCs with relapse-free survival.

Results: Median follow-up was 14 months, and mean age was 53 years. One or more CMC was detected in 28/67 (42%) of patients at baseline blood draw. The presence of CMCs was not associated with primary melanoma features such as Breslow thickness, BRAF status, the presence of mitotic figures, or ulceration (p=NS). During the follow-up period, 42/67 (63%) patients recurred, with 23/28 (82%) of the CMC positive patients relapsing, vs 19/39 (49%) of the CMC negative patients (log rank p=0.0004; hazard ratio 2.89, 95% CI 1.57 – 5.33, P=0.0007). CMC presence at baseline blood draw also predicted relapse within 6 months, as 13/28 (46%) of CMC positive patients relapsed vs. 5/39 (13%) of CMC negative patients (log rank p=0.0005; hazard ratio 5.25, 95% CI 1.86 – 14.77, P=0.0007).

Conclusion: CMCs were associated with relapse in stage IV melanoma patients. This information warrants further study of CMCs as a means of identifying patients at high-risk for disease progression.

ORAL ABSTRACTS

24. REBOA: IMPLEMENTATION AND PRELIMINARY RESULTS AT AN ACADEMIC LEVEL 1 TRAUMA CENTER

MD Darrabie MD, CA Croft MD, SC Brakenridge MD, AM Mohr MD, MD Rosenthal MD, FA Moore MD, RS Smith MD

University of Florida

Presenter: Marcus Darrabie MD

Invited Discussant: Will Fry MD, Lafayette, CO

Background: Resuscitative endovascular occlusion of the aorta (REBOA) is a novel method of obtaining control of subdiaphragmatic hemorrhage from injury while improving hemodynamic stability. This procedure achieves many of the goals of resuscitative thoracotomy (RT), but in a much less invasive manner. Herein, we present the initial experience with this technique at a level 1 academic trauma center.

Methods: Orientation of attending surgeons and senior surgical residents to REBOA was accomplished through a brief educational program including a slide presentation and a hands-on session with simulation training (1.5 hours). Surgeons were not required to attend an external training course. Operating room personnel were oriented with a brief slide presentation. Initially, a 12 Fr. introducer and aortic occlusion balloon were used. Subsequently, a 7 Fr. device was utilized. All procedures were performed in a dedicated trauma operating room with imaging capability.

Results: During a 21 month period (6/2015-3/2017), 15 severely injured patients (ISS 38.6 + 22.3, GCS 8.5 + 5.9, lactate 5.34 + 3.59 mmol/L) had REBOA placed. All patients were hemodynamically unstable (systolic blood pressure 93.9 ± 9.3 mmHg) due to hemorrhage. Preoperative hemoglobin ranged from 5 - 14.4 g/dL. Etiology of hemorrhage was blunt trauma (n= 11), penetrating injury (n= 1) and non-traumatic mechanisms (n=3). Following REBOA, the hemodynamic status improved in 9 / 15 patients (systolic blood pressure 131.2± 6.87 mmHg) . 13 patients survived the initial operative intervention and 5 survived 30 days. Significant technical issues were not encountered. REBOA was successfully performed in all patients. One survivor developed a common femoral pseudoaneurysm. Survival for RT (ISS 31.3 + 11.25) during same period was 0 %.

Conclusions: REBOA is an effective method of improving hemodynamic status in severely injured patients with sub-diaphragmatic hemorrhage. Survival appears superior to patients that receive an RT. Extensive training of trauma surgeons and OR staff is not required to implement a REBOA program. REBOA should be incorporated into the skill set of trauma surgeons.

ORAL ABSTRACTS

25. PROGNOSTIC FACTORS INFLUENCING SURVIVAL IN SMALL BOWEL NEUROENDOCRINE TUMOR WITH LIVER METASTASIS

N Manguso MD, N Nissen MD, A Harit BS, J Mirocha MS, A Hendifar MD, F Amersi MD
Cedars-Sinai Medical Center

Presenter: Nicholas Manguso MD

Invited Discussant: Eddie Abdalla MD, Atlanta, GA

Background: Management of liver metastasis in patients with small bowel neuroendocrine tumors (SBNET) remains unclear. Surgical resection may improve survival, however, factors that influence overall prognosis are not clear.

Methods: Database review identified 301 patients with SBNET diagnosed between 1990 and 2013. Only patients with known liver metastasis who underwent resection of the primary tumor were included. Outcomes among patients who underwent complete resection of liver disease (R0), incomplete resection of liver metastases (R1), and resection of the primary tumor without resection of the liver metastasis (NR) were evaluated. Survival estimates were performed using the Kaplan-Meier method and Cox Regression was used to obtain estimates of hazard ratios (HR).

Results: 111 patients met study criteria. Median age was 59 years (range 16-80); 44% were male. The terminal ileum (47%) was the most common location of the primary tumor. Median number of liver lesions was 7 (range 1-31) and median lesions resected was 1 (range 0-31). Forty-four patients (39.6%) had one or more wedge resections, 12 (10.8%) underwent segmentectomy and 5 (4.5%) underwent lobectomy. There were 12 (10.8%) deaths during the follow up period. Fifty patients (45%) with liver metastasis had resection of the primary tumor only (NR), 41 (36.9%) underwent complete resection of liver metastases (R0) and 20 (30%) had incomplete resection of their liver disease (R1) at the time of small bowel resection. Comparison of the groups showed no significant differences with respect to demographics, tumor characteristics or pathologic features, however, a significantly higher number of patients in the R0 group underwent radiofrequency ablation during their course of treatment (8% NR vs 15% R1 vs 39% R0, $p < 0.001$). The 5-year overall survival (OS) was 79.4% in the NR group, 84.7% in the R1 group and 100% in the R0 group, showing a trend that R0 resection was better than R1 resection which was better than NR (Log-Rank Trend test $p = 0.02$). The 10-year OS was 72.7% in the NR group, 84.7% in the R1 group and 82.5% in the R0 group with no significant trend noted between the groups (Log-Rank trend $p = 0.11$). Cox regression analysis showed patients with greater than 10 liver lesions have a 3.6 times increased risk of death at 10 years ($p = 0.035$), and those receiving postoperative chemotherapy have a 3.7 times increased risk of death ($p = 0.026$).

Conclusion: In patients with liver metastasis from SBNET, complete resection of all liver disease at the time of resection of the primary tumor provides a survival benefit at 5 years compared to an incomplete resection or no resection of liver metastasis. However, at 10 years, survival does not differ based on the choice of management. In addition, patients with greater than 10 liver lesions and those receiving postoperative chemotherapy are at a significantly higher risk of death.

ORAL ABSTRACTS

26. RISK FACTORS OF ANASTOMOTIC LEAK FOLLOWING BARIATRIC SURGERY, A MBSAQIP ANALYSIS

R Fazl Alizadeh MD, S Li MD PhD, CS Inaba MD, MW Hinojosa MD, BR Smith MD, MJ Stamos MD, NT Nguyen MD

University of California Irvine Medical Center

Presenter: Reza Fazl Alizadeh MD

Invited Discussant: John Morton MD, MPH, Stanford, CA

Background: Anastomotic leak (AL) remains as one of the most dreaded complications in bariatric surgery. The aim of this study was to evaluate performance of provocative testing for AL, placement of a surgical drain, and performance of a swallow study in patients who undergo laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y gastric bypass (LRYGB).

Methods: Using the 2015 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database, clinical data were obtained for all patients who underwent LSG or LRYGB. Emergent and revisional cases were excluded. Patients were categorized into three group including: provocative test, surgical drain, and swallow study. AL was defined as 30-day leak outcomes, drain present >30 days, organ space surgical site infection, leak-related 30-day readmission, leak-related 30-day reoperation, and leak-related 30-day intervention. Multivariate logistic regression model was utilized to analyze the risk factors of anastomotic leak in each group.

Results: We analyzed 133,478 patients. LSG comprised 69.3% of cases and LRYGB comprised 30.7% with an overall rate of AL of 0.7% (938/133,478). In the provocative test cohort, 81.9% of the patients received provocative test while 18.1% did not; AL was significantly higher in patients who received provocative test compared to patients who did not (0.8% vs. 0.4%, AOR:1.84, CI:1.45-2.34, P<0.01). Procedure type, LSG, had significantly lower risk of AL compared to LRYGB (AOR:0.45, P<0.01). Preoperative sleep apnea, hypertension, and diabetes mellitus were the most significant risk factors of AL in patients who received provocative test compared to patients without (AOR: 1.47,1.32,1.20, P<0.05). In the surgical drain cohort, 24.5% of the patients had a drain placed and 75.5% did not; AL was significantly higher in patients who had a surgical drain placed compared to patients who did not (1.6% vs. 0.4%, AOR:3.41, CI:2.98-3.91, P<0.01). In this cohort, LSG had significantly lower risk of AL compared to LRYGB (AOR:0.49, P<0.01). Preoperative end stage renal disease, sleep apnea, and hypertension were the most significant risk factors of AL in patients who received surgical drain compared to patients without drain (AOR: 2.90,1.43,1.28, P<0.05). In the swallow study cohort, 41.1% of patients received swallow study and 58.9% did not. There was no significant difference in AL in patients who received swallow study compared to patients who did not (0.7% vs. 0.7%, P>0.05).

Conclusion: Anastomotic leak was significantly higher in patients who had provocative testing and a surgical drain placed (nearly two-fold and >three-fold, respectively). Preoperative sleep apnea and hypertension were significant risk factors of AL for these cohorts. However, we observed similar AL rates between patients who received vs. patients who did not receive a swallow study. Compared to LRYGB, LSG significantly decreased the AL rate in the provocative test and surgical drain placed cohorts.

ORAL ABSTRACTS



27. CRURAL CLOSURE REINFORCEMENT WITH PORCINE MESH RESULTS IN FEWER RADIOGRAPHIC RECURRENCE AND HIGHER PATIENT SATISFACTION COMPARED TO SYNTHETIC MESH, IN THE SHORT-TERM, FOLLOWING LAPAROSCOPIC REPAIR OF LARGE HIATAL HERNIAS

Juan Santamaria-Barria, MD, Kaushik Chandni, David Roife, MD, Charles C Miller PhD, Farzaneh Banki, MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Juan Santamaria-Barria, MD

Invited Discussant: Peter Crookes MD, Los Angeles, CA

Background: Short- term outcomes of laparoscopic repair of large hiatal hernias with synthetic mesh (Vicryl) versus biologic porcine mesh (Acell) are unknown.

Methods: Prospective study with postoperative videoesophagram and follow up symptomatic questionnaire via phone. All the procedures were performed by the same surgical and anesthesia team in a single center. The values are median (interquartile range).

Results: From 02/21/2014 to 09/19/2016 there were 158 laparoscopic hiatal hernia repairs. Type I hernias <4 cm (n=20) and reoperative repairs (n=38) were excluded. 100 consecutive patients with type I hiatal hernia \geq 4 cm and type II-IV hernias, repaired with mesh were included. Crural closure was reinforced by Vicryl mesh in the first 50 patients and by Acell mesh in the subsequent 50. There were 97 Toupet and 3 Nissen funduplications. There was no difference in gender, age, ASA, BMI, preoperative symptoms, size and type of hiatal hernia between the two groups. There were no conversions and no leaks. There was no 30 day or in hospital mortality. Vicryl vs. Acell group: no difference in the duration of the operation: 130 (107-147) vs. 133 (108-164) minutes, blood transfusions (0 vs. 3), length of stay: 2 (1-2) vs. 2 (1-3) days, readmissions: (1 vs.2), and post-operative complications: (8 vs.13). Questionnaires were obtained in 46/50 (92%) patients at 19.9 (16.9-25.7) months in Vicryl and 42/49 (86%) at 8 (4.4-9.8) months in Acell group. At the time of questionnaire there was 1 non-related death in Acell group. There were 39/46 (85%) vs. 42/42 (100%) patients satisfied with the operation ($p<0.009$) and 37/46 (80%) vs. 40/42 (95%) free of preoperative symptoms ($p<0.04$) in Vicryl vs. Acell group. When Vicryl and Acell groups were independently analyzed for preoperative and postoperative heartburn, regurgitation, dysphagia, and PPI usage, both mesh groups resulted in significant symptom control and decrease in PPI usage ($p<0.001$ for all). Radiographic follow up was obtained in 37/50 (74%) at 20.0 (16.5-24.6) months in the Vicryl vs. 39/49 (80%) at 6.6 (3.6-9.8) months in the Acell group. There were 15/37(41%) recurrences on the Vicryl vs. 7/39(18%) recurrences in the Acell group ($p<0.03$). Reoperative hernia repair was performed in 6/37(16%) at median of 18.1(7.2-20.9) months in the Vicryl group vs. 1/39(3%) at 12.5 months in Acell group ($p<0.04$). One patient in the Vicryl group had two recurrences and ultimately needed a Roux-en-Y esophagejejunostomy.

Conclusion: Laparoscopic repair of large hiatal hernias by fundoplication and crural closure reinforcement with mesh results in significant symptom relief, decrease in PPI usage and high patient satisfaction in most patients. Crural closure and reinforcement with Acell mesh results in fewer radiographic recurrence, fewer reoperations, better symptom relief and overall patient satisfaction, than Vicryl mesh, in the short-term. Randomized study and longer follow up are required to better delineate the advantages of Acell mesh.



QUICK SHOT ABSTRACTS

QUICK SHOT ABSTRACTS

Q51. MANAGEMENT OF THE POSITIVE NIPPLE MARGIN IN NIPPLE-SPARING MASTECTOMY: A LESS AGGRESSIVE AND ONCOLOGICALLY SAFE APPROACH

ML Haslinger MD, M Sosin MD, AJ Bartholomew MS, AB Crocker MS, A Gulla MD,

S Seevaratnam BS, TA Pittman MD, SC Willey MD, EA Tousimis MD

Medstar Georgetown University Hospital

Presenter: Michelle Haslinger MD

Background: Reported rates of positive nipple margins following nipple-sparing mastectomy (NSM) vary widely (3-20%). The current standard of care is to remove the nipple areolar complex (NAC) for a positive nipple margin. The purpose of this study is to describe a less aggressive approach to retain the NAC while achieving a negative nipple margin.

Methods: A single institution retrospective chart review was performed for patients undergoing NSM from 1989 to 2017. Demographic, clinical, and pathologic data were reviewed to identify breasts with positive nipple margins, defined as invasive carcinoma or DCIS within 2mm of the NAC. Primary outcomes included rates of positive margins, shave biopsy of subareolar tissue, total NAC excision, as well as complications and final pathology of subsequent biopsies.

Results: A total of 819 NSMs were performed; 454 (55.4%) were prophylactic, 365 (44.6%) were therapeutic, and 338 (41.3%) were bilateral. A total of 39 breasts (4.7%) with positive nipple margins (2003-2017) established the cohort for analysis. The mean age was 48.6 +/- 10.6 years, BMI was 24.0 +/- 3.8 kg/m², tumor size of invasive carcinoma was 1.7 +/- 1.5cm, size of DCIS was 3.0 +/- 2.4cm, distance of primary tumor to NAC was 3.9 +/- 1.9cm, and all were therapeutic NSMs. Management of positive margins included 16 (41.0%) shave biopsies of subareolar tissue, 16 (41.0%) total NAC excisions, 6 (15.4%) with no intervention, and 1 (2.6%) lost to follow-up. Of the shave biopsies, mean time from NSM was 3.4 +/- 1.9 months; 9 (56.3%) were performed during tissue expander to permanent implant exchange and 7 (43.8%) were standalone procedures. Final pathology revealed 1 positive margin (DCIS within 1mm of margin). No patients developed NAC necrosis following shave biopsy or underwent subsequent NAC removal. For total NAC excision patients, mean time from NSM was 1.7 +/- 1.4 months; 7 (43.8%) occurred during tissue expander to permanent implant exchange, 6 (37.5%) were standalone procedures, 2 (12.5%) occurred during axillary dissection, and 1 (6.3%) during resection of concomitant NAC necrosis. Three NACs were positive (1 IDC and 2 DCIS) on final pathology. Of the 6 patients that had no subsequent intervention, tumor pathology was DCIS in all cases. One patient received adjuvant radiation therapy. There was no evidence of tumor recurrence or morbidity in the entire positive margin cohort with a mean follow-up time of 2.4 years.

Conclusion: Rates of positive nipple margins following NSM are low, and harboring invasive carcinoma or DCIS within the NAC is extremely rare. Our data supports a less aggressive approach in managing positive nipple margins following NSM with a shave biopsy. Salvaging the NAC via subareolar shave biopsy is a reasonable and safe alternative to immediate NAC removal. Timing of intervention may be delayed until a subsequent procedure is required within the upcoming months. Further long term data is necessary to confirm the role of less aggressive management.

QUICK SHOT ABSTRACTS

QS2. SAME-DAY DISCHARGE AFTER LAPAROSCOPIC GASTRIC BYPASS: A STEP TOO FAR?

CY Koh MD, S Sujatha-Bhaskar MD, L Zhang MS, NT Nguyen MD
University of California Irvine Medical Center

Presenter: Colette Inaba MD

Background: Laparoscopic Roux-en-Y gastric bypass (LRYGB) is a bariatric procedure that has been performed with successful discharge on postoperative day 1 (POD1). There are limited studies on same-day discharge (POD0) after LRYGB. The objective of this study was to compare outcomes between patients discharged POD0 vs. POD1 after LRYGB.

Methods: The 2015 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was analyzed for adult, elective LRYGB cases for which patients were discharged on POD0 or POD1. Primary outcome measures included 30-day mortality and morbidity. Secondary outcome measures included 30-day readmission and reoperation rates. Outcome measures were risk-adjusted for patient demographic and clinical characteristics using multivariate logistic regression.

Results: A total of 9721 cases were analyzed, including 319 (3.3%) cases with POD0 discharge and 9402 (96.7%) cases with POD1 discharge. Median age was 44 years for both groups, and median BMI was 46.6 and 44.5 kg/m² in the POD0 and POD1 groups, respectively. Unadjusted mortality rates for patients discharged POD0 vs. POD1 were 0.94% vs. 0.05%, respectively (P=0.0017). Causes for death in the POD0 group included bleeding and respiratory failure, while causes for death in the POD1 group included intestinal obstruction and vein thrombosis. There were no differences between POD0 vs. POD1 groups for risk-adjusted overall morbidity (3.13 vs. 1.34%; adjusted odds ratio, AOR, 2.33; P=0.063), readmissions (3.45 vs. 3.66%; AOR 0.84; P=1) or reoperations (1.88 vs. 0.89%; AOR 2.33; P=0.243). The most common complication was surgical site infection for both groups (POD0 group: 1.25%; POD1 group: 0.76%). The most common reasons for readmission included abdominal pain, nausea/vomiting, or fluid/electrolyte depletion (POD0 group: 1.23%; POD1 group: 1.54%). The most common reason for reoperation was bleeding for the POD0 group (0.63%) and obstruction for the POD1 group (0.28%).

Conclusion: Discharge on the same day after LRYGB may be associated with worse mortality compared to discharge on the first postoperative day, with a trend toward increased morbidity. The practice of same-day discharge after LRYGB requires further study prior to widespread adoption.

QUICK SHOT ABSTRACTS

QS3. TWO STAGE HEPATECTOMY VERSUS ONE STAGE MAJOR HEPATECTOMY WITH CONTRALATERAL RESECTION OR ABLATION FOR BILOBAR COLORECTAL LIVER METASTASES

JM Cloyd MD, T Mizuno MD PhD, K Omichi MD PhD, CD Tzeng MD, YS Chun MD, C Conrad MD PhD, TA Aloia MD, JN Vauthey MD

University of Texas MD Anderson Cancer Center

Presenter: Jordan Cloyd MD

Background: Along with contemporary systemic chemotherapy, surgical resection of colorectal liver metastases (CRLM) is associated with a significant survival benefit. However, the optimal surgical approach for patients with advanced bilobar CRLM is unknown. We therefore set out to compare the short- and long-term outcomes of two-stage hepatectomy (TSH) vs one-stage major hepatectomy with contralateral partial hepatectomy or ablation (OSH).

Methods: Patients with bilobar CLM who underwent right or extended right hepatectomy with treatment of synchronous segment I to III lesions between 1998–2015 were retrospectively reviewed. Postoperative outcomes and overall survival (OS) were compared between patients who underwent TSH versus OSH.

Results: Among 227 patients who met inclusion criteria, 126 (56%) underwent TSH, while 101 (44%) underwent OSH, including 29 (13%) without radiofrequency ablation (RFA) and 72 (32%) with RFA. Patients who underwent TSH had a greater number of metastases compared to those who underwent OSH (8.4 ± 6.8 vs 6.3 ± 3.7 ; $p=0.01$) as well as a greater number of treated metastases in segments I-III (1.9 ± 1.6 vs 1.5 ± 1.0 ; $p<0.01$). However, there were no significant differences in primary cancer site, nodal status of primary, preoperative carcinoembryonic antigen level, timing of liver metastases, or maximum diameter of the largest CLM (all $p>0.05$). TSH was associated with a significantly lower incidence of postoperative major complications (14% vs 26%, $p=0.03$) and postoperative hepatic insufficiency (PHI; 6% vs 20%, $p=0.001$) compared to OSH. Using an intention-to-treat methodology, the 5-year OS rates among patients who initiated TSH and underwent OSH were 35% and 24%, respectively ($P=0.02$). Among the 92 (73.0%) patients who completed both stages of TSH, the 5-year OS rate of 50% was significantly better than those who underwent OSH (24%, $p<0.0001$), even when stratified by OSH without RFA (20%, $P=0.02$) or OSH with RFA (24%, $P<0.0001$). On multivariate Cox proportional hazards regression analysis, OSH (analyzed as intention-to-treat) was significantly associated with worse OS (HR 1.46; 95% CI 1.05-2.02; $P=0.02$).

Conclusion: Among patients with advanced bilobar CLM, TSH is associated with lower rates of major complications, a lower incidence of PHI, and a longer OS duration compared to a strategy of OSH with contralateral resection or ablation.

QUICK SHOT ABSTRACTS

QS4. PANCREATECTOMY WITH ARTERIAL RESECTION: PERIOPERATIVE OUTCOMES OF 100 CASES

MJ Truty MD MSc, MC Tee MD, AC Krajewski MD, RT Groeschl MD, KP Croome MD, RL Smoot MD, ML Kendrick MD, SP Cleary MD, MB Farnell MD, DM Nagorney MD
Mayo Clinic

Presenter: Mark Truty MD, MSc

Background: Improvements in perioperative care, advances in surgical technique, and availability of effective modern therapeutics have led to the expansion of complex pancreatic resections. As indications continue to evolve, specifically cases with arterial resection, the aim of this study was to identify predictors of major morbidity and mortality after such uncommon procedures.

Methods: Single-institution review from 1990-2017 was performed to identify all major pancreatic resections with concomitant arterial resection (hepatic artery / celiac axis / superior mesenteric artery). Patient demographics, co-morbidities, procedural data, and postoperative outcomes and interventions were collected for analysis.

Results: One hundred patients underwent major pancreatectomy (Whipple 38%, Distal 48%, Total 19%) with concurrent arterial resection. The majority (86%) of cases were for malignancy. There was an increasing frequency of these cases over time with the majority (75%) performed in the modern era (2010-present) and increasing use of neoadjuvant therapy ($P < 0.0001$), however 30% of these arterial resections were unplanned preoperatively. Arteries involved included: 54 hepatic artery, 45 celiac axis, 11 superior mesenteric artery, and 13 multiple. Complex anastomoses/graft conduits were required in 55% of cases. Concurrent venous resection and reconstruction was required in 51% of cases. Median operating time was 463 min with 50% of cases having EBL >1000ml and 76% of pts requiring perioperative transfusion. Overall 90-day mortality for entire cohort was 12% and this improved significantly over time (30% vs 8%, $p = 0.0067$). Overall major morbidity (Grade IIIB or higher) was 35% and this did not vary over time. Clinically relevant (Grade B/C) pancreas-specific morbidity included: 20% DGE, 20% POPF, and 15% PPH. Endoscopic/interventional approaches were required in 30% of these complications and 15% required re-operation. ICU stay was required in 38% of cases for at least 24hrs. Median LOS was 10 days with readmission occurring in 30% of cases. Of all risk factors identified, post-pancreatectomy hemorrhage (PPH) was the single largest predictor of mortality, major morbidity, re-operation, and ICU/readmission followed by post-operative pancreatic fistula (POPF).

Conclusion: Risks are significant with pancreatectomy and concurrent arterial resection. The incidence/severity of major morbidity, primarily driven by PPH and POPF, has not changed over time, however the operative mortality has significantly improved, suggesting better patient rescue and interventions. Measures to decrease these complications are critically needed. As nearly 1/3rd of cases are unplanned, the outcomes of such cases are highly relevant. Furthermore as we anticipate an increased frequency of such planned arterial cases over time with improved modern therapeutics for malignant disease, an understanding of the anticipated risks presented by this data may assist in patient counseling and selection for such challenging cases.

QUICK SHOT ABSTRACTS

Q55. COSTS OF DONATION AFTER CARDIAC DEATH ORGANS ARE HIGHER DUE TO INABILITY TO PREDICT TIME TO DONOR DEATH AND ORGAN SUITABILITY FOR TRANSPLANT

J Lindeman MD, LA Dageforde MD, N Vachharajani BS, E Stahlschmidt BS, D Brockmeier MA, JR Wellen MD, AS Khan MD, WC Chapman MD, MBM Doyle MD

Washington University in Saint Louis

Presenter: Leigh Anne Dageforde MD, MPH

Background: Donation after cardiac death (DCD) is one approach to address the organ shortage. Nationally, more than half of evaluated DCD donors do not yield transplantable organs, but reported costs of DCD programs often do not account for the costs of these donors. Also, there is not an algorithm for predicting which DCD donors will be appropriate for organ procurement. DCD program costs from an organ procurement organization (OPO) perspective accounting for all evaluated donors have not been reported.

Methods: Hospital, transportation, personnel, and supply costs of all DCD evaluations and donors at a single OPO from January 2009 to June 2016 were collected. Average costs per donor and per organ transplanted were calculated. Costs of DCD donors that did not yield a transplantable organ were included in cost analyses to account for the total cost of the DCD program. DCD donor costs were compared to average costs of in-hospital donation after brain death (DBD) donors for the same time period.

Results: Of 264 total potential DCD donors evaluated, 137 (52%) resulted in a total of 298 transplanted organs at an average cost of \$10,403 per organ. The average cost per DCD donor yielding transplantable organs was \$23,175; however, 127 (48%) of donors yielded no organs but at a cost to the program. Discarded organs on average cost \$7,420, and evaluated donors that did not progress to donation cost \$8,794 per donor. Therefore, the total cost of a DCD program (all potential and actual donors) was \$32,019 per donor and \$14,720 per organ, which is 38.2% more than the isolated cost of DCD donors yielding organs. The average cost for an in-hospital DBD donor during the same time was \$33,546, and the average cost per DBD organ transplanted was \$9,478. DBD donors yielded on average 3.54 organs per donor while DCD donors yielded only 2.18 organs per donor ($p < 0.0001$); but because DBD donors yielded more organs per donor, the cost per DBD organ was 64% of the cost of a DCD organ.

Conclusion: DCD donors are costly, but the average cost per donor is comparable to DBD donors. The individual cost of DCD organs increases by almost forty percent when accounting for the costs of an entire DCD program. The ability to predict which DCD donors will progress to donation would decrease the cost to an OPO of all DCD donors.

QUICK SHOT ABSTRACTS

QS6. ROBOTIC VENTRAL HERNIA REPAIR IS ASSOCIATED WITH LOW PERIOPERATIVE MORBIDITY AND OFFERS A MORE VERSATILE TECHNICAL APPROACH WHEN COMPARED TO CONVENTIONAL LAPAROSCOPY

JA Zaman MD, BJ Keys MD, S Pierre BS, A Ata PhD, M Tafen MD, SC Stain MD, TP Singh MD

Albany Medical College

Presenter: Jessica Zaman MD

Background: Laparoscopic ventral hernia repair (LVHR) is under-utilized, accounting for only one quarter of all ventral hernia operations performed in the US annually. Robotic-assisted ventral hernia repair (RVHR) is a more versatile minimally invasive approach with promising early outcomes. We compared perioperative outcomes of patients who underwent RVHR and LVHR at a large tertiary medical center.

Methods: Retrospective analysis of ventral hernias repaired robotically or laparoscopically by a single surgeon from 2012 to 2016 was performed. Patient characteristics, operative data, and 30-day post-operative outcomes were extracted from the electronic medical record. Chi-Squared test, Fisher's test, and two sample t-tests with equal variances were used for comparison of continuous non-parametric variables.

Results: Of 222 total patients, 110 underwent RVHR and 112 underwent LVHR. RVHR patients were younger (mean age 52.8 vs. 56, $p=0.069$) and more likely to be male (38.2% vs. 22.3%, $p=0.013$). A higher percentage of patients in the robotic cohort had a history of prior ventral hernia repair (31.8% vs. 25.9%, $p=0.013$) and were identified as ASA class 3 or higher (74.1% vs. 52.7%, $p<0.05$). Pre-operative BMI, diabetic, and smoking status were similar among cohorts. Operative approach for RVHR included primary closure of fascial defect in all patients with pre-peritoneal mesh placement in a majority of patients (79.1%). Only 22.7% of RVHRs required true myocutaneous advancement flaps with a fascial release. Fascial defects were not routinely closed in standard laparoscopic cases, and all patients had intraperitoneal on-lay mesh placed. Two RVHRs (1.8%) were converted to an alternate approach, while no LVHRs were converted. Mean operative time was longer for robotics, 154.6 vs. 96.9 minutes ($p<0.05$). However, length of stay was lower for RVHR, 2.2 vs. 3.1 days ($p<0.05$). With regards to post-operative complications, the incidence of surgical site infection, seroma/hematoma formation, ileus, and small bowel obstruction were low (3% or less) and statistically insignificant for both robotic and laparoscopic repairs. LVHR was associated with a slightly higher number of ER visits (10.7% vs. 8.2%, $p=0.519$), but hospital readmission rates were higher for RVHR (6.4 vs. 2.7%, $p=0.186$). Operative intervention within 30-days of the index procedure due to obstruction and wound complications was required for 3 RVHR patients and 1 LVHR patient (2.7% vs 0.9%, $p=0.168$).

Conclusion: RVHR facilitates primary fascial closure and pre-peritoneal mesh placement, which may lead to lower recurrence and less future complications. While the robotic assisted approach has longer operative times, RVHR was associated with significantly shorter LOS. Further study is needed to determine long-term outcomes of RVHR.



ePOSTER ABSTRACTS

ePOSTER ABSTRACTS

(Monitor # 1)

P1. IMPACT OF NOVEL WOUND PROTECTION DEVICE ON OBSERVED VS EXPECTED SURGICAL SITE INFECTION RATES FOLLOWING COLECTOMY USING THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM RISK CALCULATOR

HT Papaconstantinou MD, R Ricciardi MD, DA Margolin MD, R Bergamaschi MD PhD,

R Moesinger MD, W Lichliter MD, JS Thomas MD, E Birnbaum MD

Baylor Scott & White Healthcare

Presenter: Harry T Papaconstantinou MD

Background: Surgical site infection (SSI) remains a persistent and morbid problem in colorectal surgery. A novel surgical device that combines barrier wound protection and retraction with continuous wound irrigation was evaluated in a cohort of elective colorectal surgery patients as a proof in concept study. We previously reported this device significantly reduced wound contamination in elective colectomy operations. However, the impact on expected SSI rates is not known. The American College of Surgeons (ACS) National Surgical Quality Improvement Program (NSQIP) risk calculator is a validated model used to prospectively predict surgical complications according to operative procedure, patient demographics and specific medical comorbidities. The purpose of this study was to compare the observed vs expected (ACS-NSQIP risk calculator) rates of SSI in our prospective study using a novel barrier wound protector with continuous irrigation in a cohort of patients undergoing colorectal operations.

Methods: A prospective multi-center study of colectomy patients was conducted using a study device for wound protection and retraction, as well as irrigation of the incision. Irrigant was normal saline mixed with a broad spectrum antibiotic. Patients were followed for 30 days after surgery to assess for SSI. Following completion of the study, the patient's characteristics were retrospectively entered into the ACS-NSQIP risk calculator to determine the expected rate of SSI for the given patient population and compared to the observed rate in the study.

Results: A total of 108 subjects were enrolled in the study with a mean age 60 years and mean BMI 28.8 kg/m². Procedure approach included laparoscopic and robotic (53%), hand assisted laparoscopic (15%), and open or conversion to open (32%). The most common anatomic location of colectomy was left sided/sigmoid (37%), right/ileocolic (33%) and anterior resection of the rectum (13%). The observed rate of SSI was 3.7% (4/108). The expected rate of SSI in the same patient population utilizing the ACS-NSQIP risk calculator was determined to be 9.5%. The observed/expected ratio was 0.39, which demonstrates a 61% decrease (3.7% vs. 9.5%, p=0.02).

Conclusion: These data indicate that the reduction of wound contamination in elective colorectal surgery patients using a novel wound protection, retraction, and continuous irrigation device may significantly reduce the rate of SSI in colorectal surgery. Future prospective randomized controlled trials are needed to verify this proof in concept study.

ePOSTER ABSTRACTS

(Monitor # 1)

P3. RADIATION AND ITS IMPACT ON LOCAL RECURRENCE IN EXTREMITY AND TRUNK LIPOSARCOMAS

Annabelle L Fonseca MD MHS, Christina L Roland MD, Janice N Cormier MD MPH, Keila E Torres MD PhD, Kelly K Hunt MD, Andrew J Bishop MD, Barry W Feig MD
University of Texas MD Anderson Cancer Center

Presenter: Annabelle L Fonseca MD MHS

Background: Patients with extremity and trunk liposarcomas (LPS) are treated primarily with surgical resection, with radiation used for a number of anecdotal reasons, including large size, unfavorable site and positive margins. Studies performed thus far have evaluated the effect of radiation on outcomes in extremity and trunk soft tissue sarcomas of all histologic subtypes; however, the appropriate role for radiation in patients with extremity and trunk LPS, specifically, have not been evaluated.

Methods: A retrospective chart review of patients with extremity and trunk soft tissue LPS referred to a stand-alone cancer center from January 1995 to December 2011 was performed. Demographics, location, treatment, pathology and outcomes were abstracted.

Results: One hundred and ninety two patients with extremity and trunk soft tissue LPS were identified: 61% were female, mean age was 58 years (range 30- 85 years), 80% were seen for a primary tumor. 98% had initial surgical resection, 18% received neoadjuvant or adjuvant radiation. Of the resected patients, 94% had well differentiated liposarcomas (WDL) (N= 181); of which 2% had a focal area of dedifferentiation. Dedifferentiated liposarcomas (DDLPS) comprised the remaining 6% (N= 11). Margin status was identified in 81%; of those identified, 77% had positive margins. 29% of resected patients developed recurrent disease; median time to recurrence was 10.8 years (range 0.2-22 years; 18 years for patients with WDL and 3.6 years for patients with DDLPS.). 55% of patients with DDLPS and 27% of patients with WDL developed recurrent disease. Of the 56 patients who recurred, 30% received radiation. 76% of patients who received radiation for a recurrence went on to develop a second recurrence, compared with 96% of those that did not (p= 0.02). On multivariate (MV) analysis, female gender (p= 0.02, OR 2.07, CI 1.09- 3.92), DDLPS (p= 0.005, OR 3.49, CI 1.45- 8.40), tumor size < 10 cm (p= 0.01, OR 2.03, CI 1.17-3.53) and difficult area of resection (p=0.005, OR 4.56, CI 1.59- 13.11) were predictive of increased risk of recurrence. Older age (p=0.02, OR 2.95, CI 1.17- 7.41), DDLPS (p < 0.001, OR 27.83, CI 5.17- 94.88) and difficult area of resection (p= 0.02, OR 10.57, CI 1.44- 77.47) were associated with the administration of radiotherapy. In WDL tumors, size < 10 cm (p= 0.005, OR 2.30, CI 1.29- 4.12) and difficult area of resection (p=0.02, OR 3.41, CI 1.21- 9.64) were predictive of increased recurrence on MV analysis.

Conclusion: Patients with extremity and trunk LPS were found to have a significant risk of local recurrence (29%); DDLPS pathology and difficult area of resection were associated with increased local recurrence. Administration of radiation therapy was not associated with decreased recurrence overall, however there was a lower incidence of second recurrences in patients who received radiation therapy at their first recurrence. Radiation therapy should be considered in patients with recurrent disease.

ePOSTER ABSTRACTS

(Monitor # 1)

P4. PREDICTING ORGAN DYSFUNCTION AFTER TRAUMATIC BRAIN INJURY (TBI): THE HEMOGRAM SCORE

M Khan MD, N Kulvatunyou MD, F Jehan MD, T O'Keeffe MD, A Tang MD, A Jain MD, G Vercruyse MD, L Gries MD, B Joseph MD

University of Arizona

Presenter: Muhammad Khan MD

Background: Organ dysfunction following Traumatic Brain Injury (TBI) is common and is associated with worse outcomes. Hematological parameters; neutrophil to lymphocyte ratio (NLR), Red Cell Distribution Width (RDW), and Mean Platelet Volume (MPV) are indicators of post traumatic inflammatory response. The aim of our study is to determine the prognostic value of these parameters in predicting organ dysfunction after TBI.

Methods: We performed a 4 year (2012-2014) retrospective review of all isolated severe TBI patients (head AIS \geq 3 and other AIS <3) and age equal to or more than 18 years admitted to ICU at our level I trauma center. NLR, RDW, and MPV for each patient based on admission laboratory parameter was obtained. Outcome measures was organ dysfunction [renal (creatinine >1.20), cardiac (MAP<70 or requiring pressers), respiratory (PaO₂/FIO₂<300) and hepatic (bilirubin>1.2)]. The predefined cut off was selected as 15.5% for RDW, 8.75fl for MPV, and 8.19 for NLR. Multivariate regression analysis (to control for demographics, admission vitals, injury parameters), conversion of odds ratio to point based system, and receiver operating characteristic (ROC) curve analysis was performed to calculate predictive power of the index.

Results: A total of 262 patients were included. The mean age was 49 \pm 23 years, 75.8% were males, median [IQR] Glasgow coma scale (GCS) was 8 [5-12], and median Injury Severity Score (ISS) was 19[16-26]. The overall organ dysfunction was 43.9% and in-hospital mortality rate was 19.1%. On regression analysis, NLR (OR: 3.1), RDW (OR: 4.9), and MPV (OR: 2.2) were independent predictors of organ dysfunction. Odds ratios were converted to point based system to create a score with weighting of NLR: 2, RDW: 3, and MPV: 1. The AUROC of this score for predicting organ dysfunction was 0.801. A score of 3 or above had a specificity of 81% and sensitivity of 71%. Patients with score >3 had higher organ dysfunction rate (76.2% vs 23.9%, p<0.001), and was independent predictor of organ dysfunction (OR: 4.2 [2.5-6.9], p<0.001).

Conclusion: Hemogram score can serve as a reliable potential marker for early detection of organ dysfunction after traumatic brain injury. Using parameters obtained as part of the hemogram, NLR-RDW-MPV, we were able to create a specific, high-quality, low-cost outcome prediction marker for organ dysfunction in TBI patients that is easy to use. Prospective validation of this score is required to establish its utility in clinical practice.

ePOSTER ABSTRACTS

(Monitor # 1)

P5. REANIMATION OF CRYOPRESERVED GASTROINTESTINAL PATIENT-DERIVED TISSUE

MC Hernandez MD, JR Bergquist MD, L Yang PhD, MJ Truty MD

Mayo Clinic

Presenter: Matthew Hernandez MD

Background: Patient-derived xenografts (PDX) generated from surgically resected tumor tissue provide highly accurate cancer models that recapitulate patient cancer phenotype and allow for highly correlative studies on biomarkers and chemotherapeutic efficacy. Engraftment failure at primary engraftment has significant consequences on program take-rate efficiency, wasted resources and costs. Primary engraftment failure varies by patient and tumor type and is also confounded by lymphomagenesis. Secondary engraftment rates of previously cryopreserved primary patient malignant tissues are unknown. In this study we performed secondary PDX engraftment from cryopreserved patient tumor samples that previously failed primary engraftment with the hypothesis that successful secondary engraftment is feasible and may allow for development of previously unavailable PDX models as well as decreased rates of lymphomagenesis.

Methods: Our program has generated over 280 unique patient cancer PDX models with very high but variable rates of efficiency (10-90%) dependent on patient and tumor type. With institutional approval and informed consent, cryopreserved original cancerous patient tissues failing previous primary engraftment were subcutaneously implanted in immunocompromised mice pretreated with rituximab for secondary engraftment attempts. Mice were monitored for successful engraftment and growth metrics were calculated: time to tumor formation (TTF), time to harvest (TTH), overall take rate (OTR), and secondary engraftment efficiency. Established xenografts were verified by a hepatobiliary pathologist for tumor histomorphology and immunohistochemistry compared to original patient tissue through multiple generations.

Results: A total of 55 tumors were secondarily reanimated from cryopreserved original patient tissue including those that initially failed primary engraftment (n=46, 84%) and those that developed lymphomagenesis (n=9, 16%). After secondary engraftment we successfully developed 29 new histologically validated PDX models with an overall secondary engraftment efficiency of 52%. Tumor types reanimated included cholangiocarcinoma (n=12), pancreatic ductal adenocarcinoma (n=16), and adenosquamous carcinoma (n=1). Lymphomagenesis occurred in only 5 xenografts (9%) with an overall decrease of 44% compared to primary engraftment. Tumor types that did not grow after both primary and secondary engraftments comprised of hepatocellular carcinoma (n=10), pancreatic ductal carcinoma (n=9), and cholangiocarcinoma (n=2).

Conclusion: Successful secondary engraftment of previously failed PDX models from cryopreserved cancerous tissue is feasible and can result in a 50% increase in efficiency with similar decrease in lymphomagenesis. This technique allows salvage of critical patient cancer models that would otherwise not exist. Overall successful engraftment appears to be tumor type-dependent with worst outcomes in hepatocellular carcinoma. These results may have substantial impact on any program utilizing PDX.

ePOSTER ABSTRACTS

(Monitor # 2)

P6. REDUCTION IN THE RATE AND SEVERITY OF CLINICALLY RELEVANT POSTOPERATIVE PANCREATIC FISTULA CAN BE ACHIEVED BY SELECTIVE USE OF PANCREATICOGASTROSTOMY IN PATIENTS WITH A “HIGH RISK” PANCREATIC REMNANT.

GB Kazantsev MD, AL Spitzer MD, RM Ramirez, PD Peng MD, CK Chang MD

The Permanente Medical Group

Presenter: George Kazantsev MD

Background: Postoperative pancreatic fistula (POPF) continues to dominate the spectrum of complications of pancreaticoduodenectomy (PD) leading to prolonged hospital stay and increased rates of re-admission, re-operation, and mortality. POPF is much more likely to occur in patients with “high risk” pancreatic remnant characterized by a soft gland and non-dilated pancreatic duct. We hypothesize that selective use of pancreaticogastrostomy (PG) in patients with a “high risk” pancreatic remnant will lead to a decrease in the rate of POPF compared with a standard 2-layer pancreaticojejunostomy (PJ).

Methods: We conducted an IRB-approved retrospective review of all of PDs performed between 2009 and 2016, focusing on surgeon’s assessment of gland texture (soft vs. hard), and duct size (<3mm was considered small). The pancreatic remnant was classified as “high-risk” if at least one risk factor (soft gland or small duct) was present. The choice of anastomosis (PJ vs. PG) was up to the individual surgeon; PG was restricted to patients with a “high risk” remnant while PJ was performed in the settings of both high- and low-risk remnants.

Results: A total of 151 patients (pts) underwent PD for benign (25.8%) and malignant (74.2%) disease. PJ was performed in 97 pts (70 “low risk”, and 27 “high risk”), while PG was completed in 54 (all “high risk”). There was no difference in the length of surgery, blood loss, mortality, morbidity (Clavien grade III and above), re-operation, re-admission, delayed gastric emptying and postoperative bleeding between groups. Clinically relevant POPF (per ISGPF definition) developed in 19 (12.5%) of the 151 pts; there was no difference in the rate of POPF between PJ (13/97, 13.4%) and PG groups (6/54, 11.1%). However, the majority of POPF after PJ occurred in patients with “high risk” remnant: 9/27, 33.3%, vs. 4/70, 5.7% for low risk remnant patients, $p=0.001$, vs. 6/54, 11.1% for PG group (all “high risk” patients), $p=0.019$. All 6 cases of POPF in PG group were grade B while 5 out 13 following PJ were Grade C, suggesting that leaks developing after PG tend to be less severe. On univariate analysis, soft gland texture, “high risk category,” unfavorable histology (any etiology other than PDAC or chronic pancreatitis) were associated with increased risk of POPF amongst PJ patients; duct size and intraoperative blood loss were not. On multivariate analysis, soft gland texture was the strongest independent predictor of POPF (OR=11.25, 95% CI 3.035–41.7, $p<0.001$); risk group and unfavorable histology appeared to be collinear with it.

Conclusion: We believe that PJ remains the procedure of choice for patients with a “low risk” pancreatic remnant as the rate of POPF is quite low and the surgeons are more experienced with this anastomosis. In patients with a “high risk” remnant, PG leads to a substantial reduction in the rate and severity of POPF compared to PJ and should be the preferred method of reconstruction in such cases.

ePOSTER ABSTRACTS

(Monitor # 2)

P8. VARIATION IN DRG MIGRATION RATES: A MARKER FOR PROCESS OF CARE EFFICIENCY IN COLECTOMY IN VALUE BASED PURCHASING

BD Hughes MD MPH, HB Mehta PhD, SA Moore MD, Y Shan PhD, AJ Senagore MD

University of Texas Medical Branch, Galveston

Presenter: Byron D. Hughes MD MPH

Background: Diagnostic Related Group Migration (DRG Migration). In colectomy, migration from DRG 331 to 330 is driven only by the occurrence of post-admission comorbidities or complications (CCs) and consequently the postoperative care plan rather than patient baseline physiology. DRG migration in colectomy represents a near doubling of cost to the Centers for Medicare and Medicaid Services (CMS). This study aimed to assess the variation in DRG Migration across US hospitals and the impact this may have on cost to CMS, and hospital costs due to extended length of stay (LOS) and complication management.

Methods: We polled 5% of national Medicare data, to identify the subset of DRG 330 patients assigned only by post-admission CCs and compared that to the hospitals performance on DRG 331 (those with no CCs reported at all). For each hospital, the DRG Migration percentage was defined as the number of patients in DRG 330 divided by the sum of DRG 331 and DRG 330 patients. Hospitals were divided into low (0-33%), moderate (34-66%) and high (67-100%) migration categories. Descriptive statistics were used to evaluate variation in DRG Migration and its impact on cost and LOS.

Results: The study analysis included 7,824 patients from 571 hospitals. The DRG Migration rate ranged from 0% to 89%, consisting of 347 hospitals with low rates (0-33%), 203 hospitals with moderate rates (34-66%), and 21 hospitals with high rates (67-89%). DRG migration resulted in significant additional patient days (LOS 8.3 vs. 4.6 days) and hospital costs (\$12,057 vs. \$6,998). Hospitals with the highest DRG Migration rates had significantly higher cost to CMS compared to hospitals with moderate/low migration rates (\$13,477 vs \$11,778/\$11,333). Interestingly the LOS was comparable for the patients who migrated to 330 across the groups (8.0 vs 8.3 vs 8.1 days).

Conclusion: The DRG Migration rates for colectomy vary greatly by hospital demonstrating significant variation in the efficiency of perioperative care plans. DRG Migration is associated with nearly doubled cost of stay and almost doubled hospital days. Assessment of DRG Migration provides a simple means of assessing process of care differences for CMS colectomy patients across US hospitals. These data have implications for prospective payment insurers as well as hospital quality improvement programs as the health care system moves to value-based payment policy.

ePOSTER ABSTRACTS

(Monitor # 2)

P9. ADJUVANT RADIATION IMPROVES SURVIVAL FOR SELECT PATIENTS WITH NON-METASTATIC ADRENOCORTICAL CARCINOMA

DW Nelson DO, S Chang PhD, BC Bandera MD, TD Fischer MD, R Wollman MD, M Goldfarb MD

John Wayne Cancer Institute at Providence Saint John's Health Center

Presenter: Daniel Nelson DO

Background: Adrenocortical carcinoma (ACC) is a rare and aggressive malignancy for which surgery is the mainstay of treatment and adjuvant radiation is infrequently employed. However, small, single-institution series suggest that adjuvant radiation may improve survival for some ACC patients.

Methods: All patients with non-metastatic ACC treated with either surgical resection alone or surgical resection followed by adjuvant radiation were identified in the 2004-2013 National Cancer Database. Patients with tumors <1cm were excluded to eliminate incidental ACC as well as patients that died within 30 days of surgery. This study determined factors associated with receipt of radiation and the impact of adjuvant radiation on survival.

Results: Of 1,197 patients, 173 (14%) received adjuvant radiation. Patient demographics were similar between the two groups, but those receiving radiation were more likely to have had positive margins following surgery (37 vs 15%; $p < 0.001$) as well as receive concurrent chemotherapy (57 vs 29%; $p < 0.001$). After adjustment for tumor and other treatment factors, only positive margins following surgery was associated with an increased likelihood of receiving adjuvant radiation (OR 3.13; CI 1.64-5.98; $p < 0.001$). Radiation therapy did not confer a difference in median 1, 3, or 5-year overall survival ($p = \text{NS}$) in the general cohort, whereas higher grade histology (HR 4.61; CI 1.55-13.7, $p = 0.01$), positive margins (HR 1.74; CI 1.02-2.96, $p = 0.04$), and vascular invasion (HR 1.77; CI 1.11-2.84, $p = 0.02$) independently decreased survival. However, for patients with positive margins following surgery, adjuvant radiation was associated with a 35% decreased yearly risk of death (HR 0.65; CI 0.43-0.97; $p = 0.03$). This survival advantage was not evident for patients with other traditional high risk features such as age >55, positive lymph nodes or high grade histology.

Conclusion: Adjuvant radiation appears to decrease the risk of death in ACC patients with positive margins following surgical resection, but only a small percentage are currently receiving radiation. Multidisciplinary treatment with surgery and radiation should be strongly considered for these patients.

ePOSTER ABSTRACTS

(Monitor # 3)

P12. SURVIVAL CALCULATOR FOR RESECTABLE STAGE I-III ESOPHAGEAL CANCER DERIVED FROM THE NATIONAL CANCER DATABASE

HM Hedberg MD, K Kuchta PhD, MB Ujiki MD

NorthShore University HealthSystem

Presenter: H Mason Hedberg MD

Background: While surgery remains the mainstay of treatment for early-stage esophageal cancers, combined-modality therapies have been demonstrated superior to surgery alone for more advanced disease. Depending on patient and disease characteristics, treatment may include neoadjuvant chemotherapy and/or radiation, surgery, and adjuvant chemotherapy. Five-year overall survival of esophageal cancer ranges from 4-40%, and discussing the impact of stage and available treatments on an individual patient's survival can be challenging. For this study, variables influencing overall survival after esophageal cancer diagnosis were identified and combined into a survival prediction calculator. This tool may be used to produce and compare individualized prognoses in different treatment plan scenarios and predict 5-year survival after treatment is complete.

Methods: Using the National Cancer Database, individuals were identified who had surgical resection for stage I-III esophageal cancer diagnosed between 2004 and 2008. This group was randomly divided, 80% into a training cohort and 20% into a validation cohort. Seventy discrete variables describing patient demographics, disease anatomy and histology, surgical approach and outcomes, resection margins and lymph node status, and neoadjuvant and adjuvant treatments were collected. Factors predicting 5-year overall survival were revealed with multivariable Cox proportional hazards regression. These factors were collated into a 5-year survival prediction model, which was then tested against the validation cohort to assess its accuracy.

Results: A total of 55,937 patients were diagnosed with esophageal cancer from 2004-2008. After excluding stages 0 and IV, patients with more than one malignancy, and individuals who did not have surgery, 10,059 patients were eligible for analysis. After randomization, five-year survival was 40.3% and 39.6% in the calibration and validation cohorts. Factors independently predicting 5-year overall survival included age, comorbidities, tumor size, grade, operative margins, lymph node status, and neoadjuvant and adjuvant therapies. Length of stay was significant and was included as an indicator of complicated postoperative course. The compiled calculator was used to compare predicted vs actual overall survival in the validation cohort with area under-the-curve = 0.76.

Conclusion: The National Cancer Database was used to develop a 5-year overall survival calculator for resectable esophageal cancer. This calculator is being integrated into a smartphone application which could be used in clinic to derive individualized survival predictions. This may be helpful at diagnosis to compare the effect of different treatment regimens and help patients make informed medical decisions. After treatment is complete and all relevant variables are known the calculator would provide a more accurate overall survival prediction compared to broad estimates that take only stage into account.

ePOSTER ABSTRACTS

(Monitor # 3)

P14. OUTCOMES FOR PATIENTS WITH STAGE IV COLORECTAL CANCER: CONCURRENT RESECTION OF THE COLORECTAL PRIMARY AND HEPATIC METASTASES

N Machairas MD, KL Mathis MD, DW Larson MD MBA, DM Nagorney MD

Mayo Clinic

Presenter: David Nagorney MD

Background: Nearly 25% of patients with newly diagnosed colorectal cancer (CRC) present with Stage IV disease from liver metastases (LM). Although resection is integral to optimal outcome, concurrent resection of the primary CRC and LM remains controversial. The aim of our study was to assess the perioperative and oncologic outcomes of concurrent resections of CRC and LM in patients with Stage IV CRC.

Methods: Patients who underwent combined resection of a primary CRC and LM between December 1999 and December 2014 were included. Patient demographics, tumor features, perioperative outcomes and overall survival were recorded. Resections of both the primary CRC and LM were stratified by relative risk.

Results: 211 patients underwent concurrent resection of the primary CRC and LM. Colorectal resections included: segmental colectomy (n=85), low anterior resection (LAR) (n=54), ultralow-LAR (n=22), abdominoperineal resection (APR) (n=41), and other (n=9). Colorectal resections were stratified as high risk (APR, total colectomy, left colectomy with diversion, coloanal anastomosis) in 74 patients and low risk (segmental colectomy with anastomosis, LAR) in 137. Hepatic resections were stratified as low risk in 134 patients (left hepatectomy, segmentectomy, subsegmentectomy) and high risk in 77 patients (right hepatectomy, trisectionectomy). Postoperative morbidity occurred in 33% of patients and 90-day mortality was 0.5%. Major morbidity (Clavien-Dindo grade \geq III) occurred in 32 patients (15%). Morbidity was greater in patients undergoing both high risk colorectal and high risk hepatic resections (37%). Morbidity was 15% after high risk CRC/low risk liver resections, 15% - low risk CRC/high risk liver resections and 11% - low risk CRC/low risk liver resections (p=0.04). The 1-, 3- and 5-year overall survival (OS) rates were 95%, 65% and 53%, respectively. Median disease free survival (DFS) was 1.3 years and 1-, 3-, and 5-year disease-free survival rates were 62%, 34% and 29%, respectively. The sole predictor of DFS was completeness of the bowel resection (R0 resection, p=0.0367). Patient age > 60 years (p=0.0418) was the singular predictor of overall survival.

Conclusion: Concurrent resections of the primary CRC and LM are safe and effective oncologically. Concurrent resections should be undertaken for most patients with Stage IV CRC and operative approach individualized for patients requiring both high risk CRC and high risk LM resections.

ePOSTER ABSTRACTS

(Monitor # 3)

P15. AN ENHANCED RECOVERY PROGRAM IN LIVER SURGERY IMPROVES OVERALL AND RECURRENCE-FREE SURVIVALS

CH Davis MD MPH, BJ Kim MD, ME Egger MD, N Narula MD, RW Day MD, VN Gottumukkala MD, JN Vauthey MD, TA Aloia MD

University of Texas MD Anderson Cancer Center

Presenter: Catherine Davis MD MPH

Background: Enhanced recovery programs continue to gain popularity in surgical patients. Previous studies have shown improved postoperative quality of life, faster recovery, and faster return to intended oncologic therapy (RIOT) in surgical oncology patients, which may have a profound impact on overall oncologic outcome.

Methods: 36 Enhanced Recovery in Liver Surgery (ERLS) hepatectomy patients were matched to 75 patients undergoing traditional recovery (TR) for primary or metastatic oncologic disease from October 2013-January 2015. The ERLS protocol included patient education, narcotic-sparing anesthesia and analgesia, diet advancement, restrictive fluid administration, early ambulation, and avoidance of drains and tubes. Patient characteristics and clinical outcomes were compared between the two groups using Mann-Whitney U tests for continuous data and Fisher's exact test for categorical data. Overall and recurrence-free survival (OS and RFS) were analyzed using a Cox proportional hazards regression models.

Results: 41 patients had minor hepatectomy (62.7% ERLS) and 70 patients had major hepatectomy (63.9% ERLS). Histology was colorectal adenocarcinoma (CRC) in 64 (59.4% ERLS), cholangiocarcinoma in 12 (66.7% ERLS), hepatocellular carcinoma (HCC) in 9 (77.8% ERLS), and other in 23 patients (60.9% ERLS). Both groups had a median of one intrahepatic tumor (median size of largest tumor: 2.55cm) on surgical pathology. 24 patients had higher tumor burden (≥ 3 intrahepatic tumors, 58.3% ERLS) and 80 patients had lower tumor burden (< 3 intrahepatic tumors, 66.3% ERLS). There was a trend towards lower morbidity in the ERLS vs. TR group, however this did not reach statistical significance (4.3% vs. 12.2%, $p=0.143$). Median length of stay was similar between groups (4.0 vs. 4.5 days), and there were no 90-day mortalities in either group. In ERLS vs. TR, 46.4% and 56.1% of patients had recurrence which was intrahepatic in 20.0% and 29.3%, extrahepatic in 10.0% and 19.5%, and both intra- and extrahepatic in 15.7% and 4.9%, respectively. In patients with higher tumor burden undergoing major hepatectomy, mean RFS was 18.7 vs. 6.8 months, respectively ($p=0.027$). Additionally, OS was higher in ERLS vs. TR patients (not reached vs. 29.6 months, $p=0.049$). In patients with lower tumor burden undergoing minor hepatectomy, mean RFS trended to favor the ERLS group (22.7 vs. 18.2 months, $p=0.166$), but OS was similar between groups (36.9 vs. 36.6 months, $p=0.724$). Subsetted by histology, the above trends remained (OS and RFS favoring ERLS) in patients with CRC, HCC, and cholangiocarcinoma.

Conclusion: Compared to hepatectomy patients treated with traditional recovery, ERLS-treated patients across a number of tumor types demonstrate improved OS and RFS, especially patients with higher tumor burden or those undergoing major hepatectomy. These data support the hypothesis that lower narcotic doses and faster recovery translates to improved long-term oncologic outcomes.

ePOSTER ABSTRACTS

(Monitor # 4)

P16. A COMPREHENSIVE MULTIDISCIPLINARY APPROACH TO IMPROVE SURGICAL OUTCOMES FOLLOWING ELECTIVE COLORECTAL SURGERY

Tripurari Mishra MD, Jan P Kaminski, MD MBA, Joaquin J Estrada, MD

University of Illinois Metropolitan Group Hospitals

Presenter: Deepa Bhat MD

Background: Approximately 15% of patients undergoing colorectal surgery experience post-operative complications, and their average length of stay can range between 6-11 days. One of these complications is surgical site infection (SSI). SSIs are the second most common type of hospital-acquired infections. The rates of SSI following colorectal surgery are one of the highest for elective surgery and have been estimated to be as high as 43% in the USA. Strategies that reduce this SSI rate can significantly improve morbidity, mortality and subsequently health care costs. We implemented our own, unique enhanced recovery pathway at a community hospital with the goal of reducing surgical site infections, length of stay (LOS), major postoperative complications, and healthcare costs.

Methods: An IRB approved retrospective review of all patients undergoing elective colorectal surgery was conducted from 2013-2016, at a large urban community teaching hospital. A novel comprehensive evidence-based enhanced recovery pathway with a specific colorectal bundle for SSI reduction was created and implemented in 2015. The SSI rate, LOS, 30-day re-admission rate, overall complications rate, and potential cost savings were collected.

Results: The rate of SSI infection prior to implementation of the treatment algorithm was 37.5%. Following implementation, the rate of SSI dropped each year (1.4% in 2015). The rate of deep SSI, defined by deep incisional infections and organ space infections, also decreased each year (12.5% in 2012 vs. 0% in 2015). The LOS before implementation of the treatment algorithm was 7.85 days. Following implementation, the LOS decreased to 2.96 days. Despite a clinically significant decrease in the LOS, the 30-day re-admission rate remained stable. The overall complication rate decreased from 6.45% to 4%. It was estimated that approximately \$11,227 per procedure was saved due to the decrease in utilization of healthcare resources.

Conclusion: An enhanced recovery pathway and colorectal bundle following elective colorectal surgery is a safe, low-cost and effective tool for reducing SSI, LOS, and overall complication rate. Of high clinical importance, the rate of deep space SSI was significantly reduced as well as overall SSI rates. By decreasing LOS by greater than 4 days, the cost of care related to elective colorectal surgery was reduced without negatively impacting readmission rates. The annualized saving in 1 year was nearly \$1,200,000. With successful deployment of this protocol for elective colorectal surgery procedures, we plan to develop similar treatment pathways for other surgical procedures.

ePOSTER ABSTRACTS

(Monitor # 4)

P18. FINANCIAL MODEL FOR A ZERO COST RESIDENT TRAINING WITHIN AN ACADEMIC SURGICAL DEPARTMENT IN RURAL AREAS

S Joseph MD, CN Ellis MD, J Molland BBA MBA, M Joseph JD MBA

Texas Tech University Health Sciences Center

Presenter: Saju Joseph MD

Background: Rural hospitals recruit surgeons at a higher cost than their urban counterparts and suffer additional costs that come with a lack of scale and location. Regionalization of care has caused cost of health care to skyrocket while causing displeasure amongst patients. Separately, academic surgical departments have increasingly relied on Graduate Medical Education (GME) funding to offset the cost of departmental administration and education. This has become more difficult as academic surgery departments are disproportionately burdened by indigent and Medicaid patients. Cuts to resident funding has further added to the fiscal difficulties of academic surgery departments. Our model addresses these two issues by exploiting an arbitrage opportunity between two supply and demand curves. Our model encourages academic surgical departments to increase their revenues by placing academic surgeons in rural areas through rural hospital partnerships. In addition to enjoying the better supply demand curve associated with academic surgeons, these rural hospitals also enjoy a reduction in transportation, locum coverage costs, expanded surgical service lines, and efficiencies of scale.

Methods: As an academic surgical department in rural West Texas our goal was to partner with rural hospitals to provide surgical services in the community while developing subspecialty care at the regional tertiary center. This “hub and spoke” model allows for surgical service lines in rural hospitals and development of regionalized care by specialists with minimal loss of continuity and a reduction of costs. Furthermore, as reimbursement for surgical procedures is significantly increased in rural areas, financial return on investment is maximized for the academic surgeons. Finally, rural hospitals are incentivized to fund resident education through federal grants.

Results: Our department acquired salary lines for faculty covering numerous surgical specialties. This allows us to cluster hospitals by region despite varying hospital interests while still keeping cost down for each member hospital. We have developed this model with five partner hospitals in the region. This has given our department 7 FTE’s as well as 9 resident salary lines. Our partner institutions have not required locum’s coverage since the start of this model and have reduced patient transfers by over 70%. Also, member institutions have increased surgical revenue on average by \$5 million annually. Finally, patient satisfaction with local service has increased substantially.

Conclusion: We seek to showcase a successfully deployed novel methodology to address the costly and growing problem of rural area surgical care. The model has reduced rural area surgical costs, improved quality of care and has the simultaneous effect of funding resident salaries while increasing revenues for academic surgical programs. We have successfully mitigated reductions in resident funding while providing advanced surgical education in this “hub and spoke” model.

ePOSTER ABSTRACTS

(Monitor # 4)

P20. PATTERNS OF USE AND FACTORS ASSOCIATED WITH SUSTAINED PRESCRIPTION OPIOID USE AFTER EMERGENCY GENERAL SURGERY

M Castillo-Angeles MD MPH, MA Chaudhary MD, M Sharma MD MPH, W Jiang MS, A Schoenfeld MD MSc, JM Havens MD, T Koehlmoos PhD MHA, AH Haider MD MPH, A Salim MD, SL Nitzschke MD

Brigham and Women's Hospital

Presenter: Manuel Castillo-Angeles MD, MPH

Background: Prolonged opioid use is a major concern when treating post-surgical pain. The proportion of patients using opioids at one year after low-risk surgery has been reported to be as high as 7.7%. However, this has not been studied within the Emergency General Surgery (EGS) population. The objective of the current study was to determine the patterns of use and factors associated with sustained opioid use after EGS.

Methods: The 2007-2013 TRICARE insurance database was queried for patients 18-64 years, who underwent an EGS procedure. Basic demographic data, surgical procedures, as well as medical comorbidities were obtained. The opioid prescriptions present at discharge, three months, and six months were also obtained. A risk-adjusted Cox Proportional-Hazard model was used to identify predictors of opioid discontinuation to highlight the likelihood of sustained opioid use.

Results: Among the 3,476 patients that received an opioid prescription at discharge, 48% filled ≥ 1 opioid prescription after discharge, 12% continued opioid use at 3 months, 5.8% at 6 months, and 1.7% at 1 year. In risk-adjusted models, being retired (HR: 1.35, $p=0.006$) and being in the Midwest (HR: 1.48, $p<0.001$) were associated with higher likelihood of opioid discontinuation, or a lower likelihood of sustained opioid use. Older age (45-64 vs. 18-24 years, HR: 0.56, $p<0.001$), being married (HR: 0.87, $p=0.027$), anxiety diagnosis (HR: 0.56, $p=0.029$), pre-existing comorbidities (Charlson Comorbidity Index ≥ 1 , HR: 0.41, $p<0.001$) and length of stay (HR: 0.96, $p=0.001$) were associated with decreased likelihood of opioid discontinuation or higher likelihood of sustained opioid use at one year. Gender, race, rank and diagnosis of depression were not significant predictors of sustained opioid use.

Conclusion: Less than 2% of patients continued to use opioids for more than 1 year after EGS, lower than the reported rate after low-risk surgery. Our findings showed that the development of prolonged postoperative opioid use is unlikely within the EGS population.

ePOSTER ABSTRACTS

(Monitor # 1)

P21. DOES HLA MISMATCHES ALTER THE OUTCOME OF ABO INCOMPATIBLE KIDNEY TRANSPLANTS

JR Wellen MD MBA, MB Doyle MD MBA, LA Dageforde MD, S Shenoy MD, A Khan MD, WC Chapman MD

Washington University in Saint Louis

Presenter: Jason Wellen MD MBA

Background: Despite countless national efforts to increase the number of available organ donors, the number of cadaveric kidney donors has remained relatively stable. For this reason, ABO living incompatible kidney transplantation has become an acceptable option for highly sensitized patients. Data on the influence of HLA matching among ABO incompatible renal transplant outcomes are sparse.

Methods: We performed a retrospective analysis of ABO incompatible transplant recipients over 18 years of age at the time of transplantation from the Organ Procurement and Transplantation Network (OPTN) Database between 2000 and 2013. Patients were categorized into 4 groups according to the level of HLA mismatch; 0, 1-3, 4-5, and 6 HLA mismatches (HLA MM). Associations between HLA MM and posttransplant graft failure and patient death were examined by Cox regression.

Results: There were 1266 ABO incompatible living transplant recipients. Of these, 7.3% had 0 HLA MM, 37.2% had 1-3MM, 43.2% had 4-5 HLA MM and 12.32% had 6 HLA MM. Compared to 4-5 HLA MM, only recipients with 0 HLA mismatch had a better kidney allograft survival [hazard ratio (HR) 0.52; 95% CI 0.29-0.91]. Whereas, recipients with 1-3 and 6 HLA MM showed no significant difference in graft survival over 13 year of follow up (HR 0.89; CI 0.69-1.13, HR 0.93; CI 0.64-1.34, respectively).

Conclusion: Zero antigen mismatched ABO incompatible transplants had a better kidney allograft survival compared to 4-5 HLA mismatches. There was no significant differences between 1-6 antigens mismatched in ABO incompatible recipients.

ePOSTER ABSTRACTS

(Monitor # 1)

P22. KEEPING OUTPATIENT THYROIDECTOMY SAFE BY MINIMIZING THE RISK AND OPTIMIZING THE MANAGEMENT OF POSTOPERATIVE CERVICAL HEMATOMA

HA Reinhart MD, VE Wagner MD, SV Stafford MD, CW Graham MD, MD Bortz MD
Baylor Scott & White Healthcare

Presenter: Henry Reinhart MD

Background: Outpatient thyroidectomy with same day discharge has been slow to be accepted among endocrine surgeons, because of the concern for life-threatening postoperative hemorrhage. We postulate that efforts to achieve complete venous and arterial hemostasis during thyroidectomy plus an emergent management plan for cervical hematoma can make outpatient thyroidectomy a safe option.

Methods: A 6+ year retrospective analysis of previously unreported thyroidectomy procedures by a single surgeon was performed to assess for outpatient versus inpatient care, type of procedure, postoperative hemorrhage and resulting clinical outcome.

Results: Between August 2009 and January 2016, 1292 thyroidectomy procedures were performed, 1173 (90.8%) as an outpatient procedure and 119 (9.2%) as an inpatient procedure. Outpatient procedures included 670 total thyroidectomies (TT) +/- central lymph node dissection (CLND) (57%), 411 total lobectomies (TL) +/- CLND or partial thyroidectomy (PT) (35%), and 92 PT (8%). Inpatient procedures included 91 TT +/- CLND (76%), 19 TL +/- CLND or PT (16%), and 9 PT (8%). Five patients (3 TT, 1 TT + CLND, 1 PT) developed postoperative hemorrhage (0.39%), all outpatient, at postoperative 3, 9, 10, 13, and 42 hours after discharge. All 5 postoperative hematomas were successfully cleared in the operating room without bedside decompression, without postoperative adverse sequelae and with an average postoperative hospital stay of 2 days. There was no significant difference between TT, TL, and PT procedures for postoperative hematoma ($p=0.17$). Outpatient thyroidectomy compared to inpatient thyroidectomy was significantly more likely to have a lower American Society of Anesthesia score (2.3 vs 3.0, $p<0.01$), lower mean blood loss (84 vs 199 ml, $p<0.01$), less recurrent laryngeal nerve injury (2.8% vs 6.9%, $p=0.01$), but no significant difference for mean resected thyroid weight (33 vs 42 Gm, $p=0.07$), symptomatic hypocalcemia (6.5% vs 10.3%, $p=0.12$), 30 day postoperative emergency room visit (9.0% vs 10.3%, $p=0.61$), and postoperative hematoma (0% vs 0.43%, $p=1.0$).

Conclusion: A concerted effort to establish complete hemostasis after thyroidectomy results in very infrequent postoperative hemorrhage that can safely be managed without life-threatening complications, making outpatient thyroidectomy applicable to the majority of thyroidectomy procedures.

ePOSTER ABSTRACTS

(Monitor # 1)

P23. THE BLEED-PD TRIAL: BLOOD LOSS EXCEEDS EXPECTATIONS DURING PANCREATODUODENECTOMY

RT Groeschl MD, AM Wockenfus, JM Aho MD, PE Skaran, ML Kendrick MD, MB Farnell MD
Mayo Clinic

Presenter: Ryan Groeschl MD

Background: Estimated blood loss (EBL) during pancreatoduodenectomy may be confounded by the presence of other fluids in the operative field, which may lead to over-resuscitation and unnecessary transfusions. We hypothesized that EBL is routinely overestimated, and designed a prospective trial that compared EBL to measured blood loss (MBL) determined by direct measurement of hemoglobin mass lost during surgery.

Methods: Consecutive patients undergoing pancreatoduodenectomy were consented for enrollment. Operating room nurses and anesthesiologists estimated blood loss as usual. MBL was calculated from a direct measurement of hemoglobin in canister fluids and operative sponges. EBL and MBL were compared with nonparametric Wilcoxon rank-sign test. A previously described formula was used to predict postoperative hemoglobin levels based on estimated blood loss, and this was compared to actual hemoglobin levels drawn on postoperative day 5.

Results: Of 48 patients consented, 43 were included for analysis. There were no deaths or reoperations. EBL (median: 600mL, range: 50-3125mL) was higher than MBL (median: 377mL, range: 7-5760mL), $p=0.0046$. Of operations where EBL >1000mL, the EBL was an overestimate in 88%. Eight patients (19%) were transfused, all of which had EBL >1000mL. Median EBL was higher than MBL in open operations (1050mL vs 486mL, $n=26$, $p=0.0153$), but not significantly higher in laparoscopic operations (400mL vs 236, $n=17$, $p=0.1182$). Neither neoadjuvant chemotherapy nor radiotherapy impacted the difference between EBL and MBL. After operations where EBL ≥ 1000 mL, actual patient hemoglobin levels on postoperative day #5 were routinely higher than would have been predicted based on the EBL (median 9.8mg/dL vs 6.3mg/dL, $n=16$, $p=0.0052$).

Conclusion: In this prospective study of pancreatoduodenectomies, MBL was only 63% of EBL, and this effect was seen on a consistent basis. These results can be used to help temper intraoperative resuscitation and avoid transfusion in seemingly borderline clinical scenarios. At our center, these results will be championed in an effort to reduce our transfusion rate for pancreatoduodenectomy.

ePOSTER ABSTRACTS

(Monitor # 1)

P25. HYPOXIA INDUCIBLE FACTOR-1 α EXPRESSION IS CRITICAL FOR METASTASIS IN A MURINE PANCREATIC ADENOCARCINOMA MODEL

CC Barnett MD, J Yi MD, BH Edil MD, RD Schulick MD, KC El Kasmi MD PhD

University of Colorado School of Medicine

Presenter: Carlton Barnett MD

Background: Despite potentially curative surgery, the majority of patients with pancreatic adenocarcinoma succumb to recurrent or metastatic disease. Surgical trauma is known to induce upregulation of hypoxia inducible factor-1 α (HIF1 α). HIF1 α regulates multiple cellular processes including angiogenesis, cell adhesion, oxygen transport and metabolism. We hypothesize that HIF1 α activity is critical for the development of metastases in pancreatic adenocarcinoma.

Methods: A murine pancreas adenocarcinoma cell line (Pan02) was modified using short-hairpin RNA targeting HIF1 α via lentiviral transduction to create Pan02-SH+ cells lacking HIF1 α activity. C57/Bl6 mice underwent splenic injection of Pan02 or Pan02-SH+ cells followed by hemisplenectomy to create metastatic tumor dissemination. At 4 weeks, mice were euthanized for necropsy. Discrete metastases were counted by blinded observers. Tumor volume was calculated by (height x width²).

Results: Abrogating HIF1 α activity decreased the number of hepatic metastases (Pan02 mean=11.5 \pm 2.0 vs. Pan02-SH+ mean=1.3 \pm 1.3; p=0.049) and decreased hepatic tumor volume (Pan02 mean volume=993 \pm 267.6 mm³ vs. Pan02-SH+ mean volume=65.5 \pm 65.5 mm³; p=0.015). There were also fewer discrete non-hepatic intraabdominal metastases in the Pan02-SH+ group (p=0.026).

Conclusion: HIF1 α activity plays a critical role for the development of metastases in pancreatic adenocarcinoma. These data suggest targeting HIF1 α activity at the time of surgical trauma may play a cogent role in preventing dissemination of pancreatic adenocarcinoma.

ePOSTER ABSTRACTS

(Monitor # 1)

P26. PHYSICIAN INFLUENCE ON BREAST CANCER SURGICAL TREATMENT

BL Murphy MD, DL Stan MD, AE Glasgow MHA, EB Habermann PhD, JW Jakub MD
Mayo Clinic

Presenter: Brittany Murphy MD

Background: Most patients with early stage breast cancer have a choice to undergo breast conserving surgery (BCS) or mastectomy. Whether the procedure women undergo is influenced by the provider they see has yet to be evaluated.

Methods: We identified women ≥ 18 years of age who underwent definitive surgical resection at our institution for stage 0-2 breast cancer 1/2010-8/2016. Patients with a prior history of breast cancer, bilateral cancer, or BRCA mutation were excluded. All patients were evaluated and educated by an internal medicine (IM) provider prior to surgical consultation. Univariate (UVA), and multivariable (MVA) analyses assessed associations of the operative procedure with age, race, education, marital status, BMI, smoking status, alcohol use, family history, histology, clinical tumor and nodal stage, neoadjuvant therapy, time from consultation to surgery, year of surgery, surgeon (N=8), and IM provider (N=13). UVA compared BCS vs unilateral mastectomy (UM) vs UM with contralateral prophylactic mastectomy (UM+CPM). Multiple MVA models compared performance of BCS vs UM, simple UM vs UM+reconstruction (UM+recon), and skin-sparing (SSM) vs nipple-sparing (NSM) mastectomy. The reference surgeon had the most years in practice and continues to practice and the reference IM provider had the greatest number of evaluated patients.

Results: 3,210 patients were included: 1776 (55.3%) BCS, 723 (22.5%) UM (431 simple, 187 SSM, 105 NSM), and 711 (22.2%) UM+CPM (164 simple, 341 SSM, 206 NSM). Mean patient age \pm SD was 60.3 \pm 12.7 years. UVA showed that breast surgeon (BCS vs UM vs UM+CPM, $p < 0.01$) and IM provider (BCS vs UM, $p = 0.07$) were associated with the procedure performed. Patients undergoing BCS were more likely to have a surgeon who was in practice for a greater number of years (mean 15.7 vs 14.7, $p < 0.01$) and an IM provider in practice for a fewer number of years (mean 14.2 vs 14.9, $p = 0.02$). On MVA, 3 surgeons were more likely to perform BCS (vs UM) than the reference surgeon (ORs 2.03, 1.91, 1.52; all $p < 0.01$) and 1 surgeon was less likely than the reference surgeon to perform a UM+recon (vs simple UM, OR 0.60; $p = 0.04$). One IM provider was more likely to have patients undergo a UM (vs BCS, OR 2.40; $p = 0.02$) compared to the reference IM physician. Two IM providers were less likely to have patients undergo a UM+recon than the reference physician (vs simple UM, ORs 0.31, 0.48; $p \leq 0.05$). Of patients undergoing UM+recon, 5 surgeons were less likely than the reference surgeon to perform a NSM (vs SSM, ORs 0.12, 0.22, 0.26, 0.06, 0.59; all $p < 0.02$). IM provider was not statistically significant.

Conclusion: For patients with early stage breast cancer, both the IM physician and the breast surgeon are independently associated with the surgical procedure performed, emphasizing the role providers play in their patients' treatment.

ePOSTER ABSTRACTS

(Monitor # 1)

P30. CO-MORBIDITY REMISSION FOLLOWING INTRAGASTRIC BALLOON PLACEMENT FOR EARLY STAGE OBESITY

H Khoury BS, K Shpanskaya BS

Stanford School of Medicine

Presenter: John Morton MD MPH

Background: The dual intragastric dual balloon is a saline filled device that works by occupying space within the stomach, inducing satiety and leading to weight loss. This can be used to treat obesity and has been approved for individuals with a body mass index (BMI) 30-40 kg/m². Only a few studies exist for dual gastric balloon devices in the U.S. Here we report our outcomes in weight loss, laboratory values, and comorbidity remission with the intragastric dual balloon.

Methods: 23 patients with complete data points underwent intragastric dual balloon placement between September 2015 and January 2017 at a single institution. All patients had a BMI > 30 kg/m² with at least one significant comorbidity. The intragastric balloon was inserted endoscopically without complications, and removed endoscopically at six months following initial placement. Anthropometric data including patient weight, blood pressure, BMI, and percentage of excess weight loss (%EWL) were recorded before placement and at 2 weeks, 3 months, and 6 months afterwards. Laboratory values were recorded before placement, 3 months and 6 months afterwards. Two-tailed paired t-tests were used to assess statistical significance.

Results: Patients were 49.4 years old, 65.2% female, and 69.6% Caucasian. Average time for balloon placement was 35.6 + 13.3 minutes. Mean BMI prior to placement was 39.8 + 1.75 kg/m². 10 patients had hypertension and 7 had hyperlipidemia. Patients lost a significant amount of weight at 2 weeks (16.9%EWL, p<0.0001), 3 months (36.8%EWL, p<0.0001), and 6 months (46.1%EWL, p<0.0001) following balloon placement. Patients also saw a significant decrease in systolic blood pressure at 3 months (p=0.0146) and 6 months (p=0.0202). Patients had a statistically significant decrease in LDL levels (p=0.0105) and in cholesterol levels (p=0.0102) at 6 months. Hypertension was resolved in 8 out of the 10 patients, and hyperlipidemia was resolved in 2 out of the 7 patients at 6 months following balloon placement.

Conclusion: Our study finds consistent and significant weight loss using the dual intragastric balloon with no significant complications. Our study additionally finds promising decreases in lipid laboratory values and systolic blood pressure, as well as remissions in hypertension and hyperlipidemia. This confirms previous findings that the dual intragastric balloon is a promising endoscopic treatment for obesity.

ePOSTER ABSTRACTS

(Monitor # 2)

P31. SPLEEN-PRESERVING DISTAL PANCREATECTOMY IN TRAUMA

M Schellenberg MD, K Inaba MD, V Cheng BA, JM Bardes MD, L Lam MD,

E Benjamin MD PhD, K Matsushima MD, D Demetriades MD PhD

Los Angeles County + University of Southern California Medical Center

Presenter: Morgan Schellenberg MD MPH

Background: Universally accepted recommendations about the need for splenectomy with distal pancreatectomy in trauma do not exist because pancreatic injuries are rare and the literature is scarce. The aim of this study was to compare outcomes after distal pancreatectomy and splenectomy vs spleen-preserving distal pancreatectomy for trauma. We hypothesized that splenic preservation would be appropriate in a minority of patients and associated with worse outcomes.

Methods: The National Trauma Data Bank (NTDB) was searched (01/01/2007-12/31/2014) for all patients who underwent distal pancreatectomy (NTDB procedure code 52.52). Patients with concomitant splenic injury and those who underwent partial splenectomy were excluded. Demographics, clinical data, procedures, and outcomes were collected. Patients who underwent distal pancreatectomy with splenectomy were compared to those who underwent spleen-preserving distal pancreatectomy. Baseline characteristics between groups were compared with univariate analysis, using Mann-Whitney U test for continuous variables and Fisher's Exact Test for categorical variables. Multivariate analysis, adjusting for age, gender, admission SBP and GCS, mechanism of injury, and ISS, was used to examine differences in outcomes.

Results: Over the study period, 2,223 patients underwent distal pancreatectomy for trauma. After excluding 1,381 with concomitant splenic injury (62%) and 8 (0.3%) who underwent partial splenectomy, 834 (38%) remained for analysis. Median age was 23 years (range 0-86) and 634 (77%) were male. Mechanism of injury was penetrating in 413 (50%). Median ISS was 10 (interquartile range [IQR] 4-18). Of the 834 patients, 469 (56%) also underwent splenectomy and 365 patients (44%) did not. Compared to patients with distal pancreatectomy and splenectomy, those who underwent spleen-preserving distal pancreatectomy were younger (18 years [IQR 11-28] vs 27 years [IQR 20-40], $p < 0.001$), more likely to have sustained blunt trauma (58% vs 36%, $p < 0.001$), and less severely injured (ISS 5 [IQR 4-14] vs ISS 16 [IQR 9-24], $p < 0.001$). On multivariate analysis, only hospital length of stay (LOS) was significantly shorter among patients undergoing spleen-preserving distal pancreatectomy as compared to those with distal pancreatectomy and splenectomy (10 days [IQR 7-18] vs 15 days [IQR 8-28]), $p = 0.010$. Complications, mortality, and ICU LOS were the same between groups.

Conclusion: After traumatic injury to the distal pancreas, there was no difference in mortality, complications, or ICU length of stay between patients who underwent distal pancreatectomy alone as compared to those who received distal pancreatectomy and splenectomy. In young patients after blunt trauma who are not severely injured, spleen-preserving distal pancreatectomy should be considered as it allows for conservation of splenic function and is associated with shorter hospital length of stay. In all other patients, the surgeon should not hesitate to remove the spleen with the distal pancreas.

ePOSTER ABSTRACTS

(Monitor # 2)

P32. IMPACT OF PRE-HOSPITAL GROUND TRANSPORTATION MODE ON SURGICAL OUTCOMES FOLLOWING TRAUMATIC INJURY

V Cheng MD, K Inaba MD, J Tang BA, M Schellenberg MD, S Byerly MD, K Matsushima MD, D Demetriades MD

Los Angeles County + University of Southern California Medical Center

Presenter: Vincent Cheng MD

Background: Higher rates of mortality have been associated with Emergency Medical Service (EMS) transportation following traumatic injury. The validity of this relationship has not yet been established in patients requiring operative intervention.

Methods: The National Trauma Data Bank was queried from 2007 to 2014 for all admissions. Patients <14 years and those transported aerially were excluded; only patients transported by EMS, police transport (PT), or private vehicle (PV) were included. Patients were stratified by injury mechanism and need for operative intervention. Multivariate logistic regression examined the impact on mortality and infectious complications of transportation mode while controlling for differences in patient characteristics and injury severity.

Results: A total of 3,285,817 patients were identified. Of these admissions, 2,058,767 (62.66%) were male, the mean Injury Severity Score was 8.98 (SD 8.60), and 372,681 (11.3%) required urgent operation immediately after admission. A total of 2,624,850 (79.88%), 32,619 (0.99%), and 628,348 (19.12%) patients were transported by EMS, PT, and PV. In patients requiring urgent operative intervention, multivariate logistic regression comparing EMS and PV indicated that PV was significantly associated with lower rates of mortality in patients sustaining blunt injuries to the chest (OR 0.564, $p=0.023$), abdomen (OR 0.448, $p=0.001$), and extremities (OR 0.247, $p<0.001$). Similar relationships were found in patients sustaining penetrating injuries to the chest (OR 0.726, $p = 0.016$), abdomen (OR 0.747, $p=0.018$), and extremities (OR 0.450, $p<0.001$).

Conclusion: Compared to EMS, PV was consistently associated with lower rates of mortality even after controlling for differences in patient characteristics and injury severity. These results warrant additional research into the mechanism causing the clinical outcome disparities between transportation modes.

ePOSTER ABSTRACTS

(Monitor # 2)

P33. A POPULATION BASED COMPARISON OF MALE BREAST CANCER WITH FEMALE BREAST CANCER IN THE UNITED STATES

AN Cobb MD, F Vaince MD, CV Godellas MD, PC Kuo MD

Loyola University Medical Center

Presenter: Adrienne N Cobb MD

Background: Male breast cancer is relatively uncommon when compared to the high prevalence of female breast cancer. Much research has been directed toward female breast cancer, but there have been few studies to compare how male breast cancer patients are faring compared to their female counterparts. This study aims to compare male breast care patients with female patients over the course of 40 years using a population-based cancer registry.

Methods: A cross-sectional review of 1,115 male breast cancer patients and 147,032 female breast cancer patients pulled from the Surveillance, Epidemiology, and End Results Program (SEER) between the years 1973 and 2013. Overall patient characteristics of both groups were performed using univariate statistics; chi square for categorical variables and Student ttest for continuous variables. Male breast cancer patients were then propensity score matched with female breast cancer patients on the basis of year of diagnosis, race, overall stage, size of the tumor, and nodal status for Kaplan-Meier analysis to compare 5 year overall survival, disease free survival and breast cancer specific mortality.

Results: The average age at diagnosis was 66.5 and 61.7 years of age for male and female breast cancer patients respectively. Both groups were largely Caucasian, had invasive cancer, and majority of tumors were less than 2 cm. Male patients showed overall higher histological grade, overall stage, and higher rates of node positive disease. Men were also had higher rates of estrogen and progesterone receptor positivity, whereas female patients were more likely to be Her2 positive. Men were more likely to die of causes other than breast cancer. Matched analysis showed that female patients had lower overall 5 year survival compared to males with approximately 65% vs. 70% respectively, and this persisted with 5 year disease-free survival of 75% for females vs. 90% for males. The mean number of months survived was 73 month for men vs. 36 months for women ($p < 0.001$).

Conclusion: Male breast cancer patients tend to have better overall survival as well as breast cancer specific survival when compared to their female counterparts despite later age at diagnosis and higher overall stage.

ePOSTER ABSTRACTS

(Monitor # 2)

P34. PROVIDER VARIATION OF DISCHARGE OPIOID PRESCRIPTIONS AFTER ELECTIVE SURGERY

MJ Nooromid MD, E Blay MD, K Ho MD, JK Johnson PhD, JL Holl MD, KY Bilimoria MD, JJ Stulberg MD, MK Eskandari MD

Northwestern Memorial Hospital

Presenter: Michael Nooromid MD

Background: Existing literature has shown a wide variation in the quantity of opioids prescribed across surgical specialties after elective surgery, but the extent to which variation is driven by provider level has not been established. We sought to evaluate whether opioid prescribing practices differed between residents, attendings, or advanced practice providers (APP) for similar surgical scenarios.

Methods: A retrospective medical record review of patients undergoing laparoscopic cholecystectomy, laparoscopic appendectomy, open umbilical hernia repair, simple mastectomy, or thyroidectomy between July 2015 and July 2016 at a single urban academic medical center was performed. The primary prescriber (resident, attending, APP), medication dosage, number of days prescribed and the quantity dispensed were recorded for each patient.

Results: Among a total of 615 unique surgical cases, 94.8% of patients received discharge opioids. The majority of discharge prescriptions were written by residents with 352 (57.2%) orders, followed by attending surgeons with 147 (23.9%) and APP with 116 (18.9%). Notably, surgical interns were accountable for 22.3% of all postoperative discharge prescriptions. The median (range) number of tablets prescribed by provider type were: residents 20 (6-189), attendings 30 (6-72), and APP 40 (5-100) ($p < 0.001$). When the total morphine milligram equivalents (MME) were evaluated by prescriber type the results were: residents 200 MME (30-1600), attendings 140 MME (30-600), and APP 240 MME (25-1000) ($p < 0.001$). Subgroup analysis comparing surgical residents across resident levels showed that median (range) total MMEs were 200 (20-1600) for interns, 300 (30-600) for junior surgical residents, and 200 (70-600) for senior surgical residents ($p = 0.19$).

Conclusion: Our study indicates that the number of tablets and strength of opioid analgesics prescribed following a surgical encounter varies widely between members of the surgical team. In addition to creating better guidelines for post-operative opioid prescribing, there is a need to understand and address the underlying knowledge, attitudes, and beliefs of each provider type for future education and outreach activities.

ePOSTER ABSTRACTS

(Monitor # 2)

P35. FACTORS THAT PREDICT BIOLOGICAL AGGRESSIVENESS IN ESTROGEN RECEPTOR-POSITIVE, HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2-NEGATIVE, LYMPH NODE-NEGATIVE BREAST CANCER

LE Arthur MD, LN Slattery BS, GM Fuhrman MD, AM Mackey MD, AE Rivere ME,

RL Corsetti MD

Ochsner Clinic Foundation

Presenter: Lauren Slattery BS

Background: Traditionally breast cancer is staged using TNM criteria, which is based on tumor size, nodal status, and evidence of distant metastasis. Oncotype DX assay uses genomics to predict the likelihood of distant recurrence in estrogen receptor (ER)-positive, human epidermal growth factor receptor (HER)2-negative disease. This study uses Oncotype DX Recurrence Score (RS) to determine if there is a correlation between tumor size, progesterone receptor (PR) status, or age and biological aggressiveness of the tumor. Biological aggressiveness is represented by the Oncotype DX RS.

Methods: This is a retrospective review of breast cancer patients evaluated between 2007 and 2017 with Oncotype DX RS and ER-positive, HER2-negative, lymph node-negative tumors. Tumor size is reported as pathological size in mm and the receptor status is as reported from Oncotype DX assay. Tumor size was compared to RS in two separate groups, ER+/PR+/HER2- and ER+/PR-/HER2-.

Results: The data set includes 296 tumors, 248 are ER+/PR+/HER2- and 48 are ER+/PR-/HER2-. RS ranges from 0 to 66, age ranges from 33 to 77 years, and tumor size ranges from 1 to 65 mm. For our comparison of age and RS no significant correlation was found ($r = -0.073$, $p = 0.208$). PR-negative tumors were found to have a statistically significantly higher RS regardless of size (PR- mean RS=30.8+/-12.7, PR+ mean RS=16.3+/-7.3, $t(53)=7.6$, $p < 0.0001$). Our comparison of tumor size versus RS was performed for the entire data set and for the two sub-groups. Overall there was no significant correlation between tumor size and RS ($r = 0.028$, $p = 0.635$) and this remained true for the PR-positive subgroup ($r = 0.114$, $p = 0.072$). However, in the PR-negative subgroup there was a significant negative correlation between tumor size and RS ($r = -0.343$, $p = 0.017$) meaning smaller tumors were associated with a higher RS. Further analysis was performed on this group to assure differences in grade were not to account for this correlation. We found equal distribution of low, intermediate, and high grade tumors throughout the different tumor sizes.

Conclusion: Increasing tumor size may not be not associated with increasing biological aggressiveness. Traditionally T1a and T1b tumors are felt to be of lower risk based upon T size alone, but they may warrant genomic analysis to assess a more accurate risk of distant recurrence. Therefore, all tumors meeting the ER-positive, HER2-negative criteria, regardless of size, should be considered for genotyping. In the PR-negative subgroup there may be a negative correlation between tumor size and biological aggressiveness, which supports the suggestion to genotype all PR-negative tumors regardless of size. The significantly higher RS in PR-negative tumors demonstrates PR-negative receptor status as a predictor for higher risk of distant recurrence. We found that age may be not associated with biological aggressiveness and therefore tumors in women of any age should be treated with similar concern for aggressiveness.

ePOSTER ABSTRACTS

(Monitor # 2)

P36. GASTROSCHISIS WITH INTESTINAL ATRESIA: MANAGEMENT STRATEGIES AND OUTCOMES

DM Notrica MD

Phoenix Children's Hospital

Presenter: Kaohinani Longwolf MD

Background: Gastroschisis is a congenital abdominal wall defect associated with intestinal atresia in approximately 10% of cases. The presence of atresia is associated with higher mortality, longer hospitalization and prolonged requirement for total parenteral nutrition. Limited data exists examining the various surgical strategies for these patients with overall outcomes.

Methods: A retrospective review of patients with gastroschisis and intestinal atresia treated by an urban pediatric surgery practice between 2002 and 2012 was performed. A description of the associated atresias was performed and outcomes of the major treatment strategies utilized for these patients compared.

Results: 172 gastroschisis patients were identified; 17 (10%) patients had associated atresia. None of the atresias associated with gastroschisis were diagnosed prenatally. Most atresias (76%) were diagnosed on the first day of life. In patients with multiple atresias (n=7), small bowel and colonic atresias coexisted in every case. Four management strategies were identified. The three most common management strategies were compared: (1) primary atresia and immediate abdominal wall repair (single stage, n=3); (2) primary abdominal repair with ostomy placement (primary/ostomy, n=7) and (3) silo placement with delayed ostomy creation (silo/ostomy, n=5). Single Stage repair demonstrated shortest time to full enteral feeding, LOS and duration of TPN dependence. A strong correlation was found between the duration of bowel discontinuity and the achievement of full enteral feeding among patients with small bowel atresia with no subjects achieving full feeds prior to bowel continuity.

Conclusion: Intestinal atresia complicates 10% of gastroschisis patients. When multiple atresias are present, small and large bowel atresias often coexist. Single stage repair of the atresia and closure of the gastroschisis was feasible in 18% of cases, and was associated with excellent outcomes. In children with gastroschisis and small bowel atresia, ostomy takedown was often required to achieve full enteral feeds.

ePOSTER ABSTRACTS

(Monitor # 2)

P38. VARIABILITY AND DISPARITIES IN THE TREATMENT OF SQUAMOUS CELL CARCINOMA OF THE ANAL CANAL

EG Arsoniadis MD, Y Fan MPH, S Jarosek PhD, WB Gaertner MD, MR Kwaan MD

University of Minnesota

Presenter: Elliot Arsoniadis MD

Background: Combined chemoradiotherapy (CRT) is considered first-line therapy for patients with locally advanced anal squamous cell carcinoma (SCC), with abdominoperineal resection (APR) reserved for treatment failure or recurrence. African Americans (AA) are reported to have an increased incidence and mortality from SCC of the anal canal. We sought to determine the rates of adherence to treatment guidelines at a national level, and examine whether AA undergo standard of care treatment at the same rate as Caucasians.

Methods: We utilized the Surveillance, Epidemiology, and End Results database to find patients diagnosed with squamous cell tumors (T2 or greater) of the anus between years 2000-2013. Radiotherapy was used as a surrogate for receipt of combined CRT. Rates of radiation receipt, abdominoperineal resection (APR), and standard of care treatment sequence (radiation alone or prior to APR) were compared between races.

Results: 4,781 patients (11% AA) with anal SCC were reviewed. Significantly more AA patients were under age 50 years old (38% versus 20%, $p < 0.0001$). Significantly more men were in the AA group (47% versus 36%, $p < 0.0001$). No differences in disease stage were found between races ($p = 0.10$). Only 63% percent of Caucasians and only 53% of AA received standard of care treatment ($p < 0.0001$). Overall, Caucasians were more likely to receive radiation compared to AA patients (87% versus 80%, $p < 0.0001$) but not more likely to receive APR (4.7% versus 4.3%, $p = 0.70$). More Caucasians received radiation without subsequent surgery compared to AA (59% versus 51%, $p < 0.0001$). Those patients undergoing radiation had lower rates of APR compared to those not receiving radiation (4% versus 11%).

Conclusion: Despite the existence of evidence-based guidelines, a large portion of patients continue to not receive standard of care treatment. Among these patients, AA with anal SCC are less likely to receive standard of care treatment compared to Caucasians. The reasons for this are unclear. Adherence to evidence-based guidelines and the elimination of racial disparities in the treatment of gastrointestinal cancers should be a priority for the surgical community.

ePOSTER ABSTRACTS

(Monitor # 2)

P39. PATTERNS OF VASOPRESSOR UTILIZATION IN A SURGICAL INTENSIVE CARE UNIT AND DEVELOPMENT OF THE VASO-SCORE FOR MORTALITY PREDICTION

NK Dhillon MD, G Liao MD, C Colovos MD PhD, A Ko MD, GM Thomsen PhD, DR Margulies MD, EJ Ley MD, G Barmparas MD

Cedars-Sinai Medical Center

Presenter: Navpreet Dhillon MD

Background: Vasopressors (VP) are commonly utilized agents in the surgical intensive care unit (ICU) to achieve desired hemodynamics in patients with hemodynamic shock. Despite their common use, very little is known about the patterns of VP utilization and their impact on mortality. The purpose of this study was to characterize VP use in critically ill surgical patients and attempt to develop a predictive scoring system for mortality.

Methods: Patients admitted between 01/2015-12/2016 to the surgical ICU of an urban, tertiary medical center and receiving at least 1 VP during their stay were selected. Demographics, APACHE IV scores, type of shock and additional treatments including continuous renal replacement therapy (CRRT), administration of steroids, and/or neuromuscular blockade were collected. In addition, patterns of VP utilization were recorded, including initiation dates, number, and duration. Patients who died were compared to those who survived and a forward logistic regression was utilized to identify independent predictors of mortality. A predictive score based on predictors of mortality was developed.

Results: A total of 242 patients received at least one VP during the study period with a mortality of 34%. The most common type of shock was septic (71%), followed by hemorrhagic/hypovolemic (19%). Patients who died were significantly more likely to have an APACHE IV score > 50 (66% vs. 25%, $p=0.01$), require mechanical ventilation (99% vs. 70%, $p<0.01$), and CRRT (43% vs. 16%, $p<0.01$). The number of VP utilized was higher in patients who died (median 3 vs. 1, $p<0.01$), as was the duration (8 vs. 2 days, $p<0.01$). Patients who died were also more likely to be restarted on VP during their ICU stay (57% vs. 43%, $p<0.01$). A forward logistic regression identified APACHE IV score, CRRT, mechanical ventilation and number of VP as independent predictors of mortality. A predictive score ranging from 1 to 10 was developed and was highly predictive of mortality in this population. The AUC for the score was 0.866.

Conclusion: Patients who require a higher number and duration of VP are at increased risk for mortality. A simple scoring system, named the Vaso-Score, accounting for common variables utilized in the surgical ICU can serve the surgical intensivist in determining the mortality risk. Further validation of this scoring system at a large scale is required.

ePOSTER ABSTRACTS

(Monitor # 2)

P40. EARLY POSITIVE FLUID BALANCE IS PREDICTIVE FOR VENOUS THROMBOEMBOLISM IN CRITICALLY ILL SURGICAL PATIENTS

NK Dhillon MD, T Li, C Colovos MD PhD, L Kirillova, E Gillette, DR Margulies MD,

G Barmparas MD, E J Ley MD

Cedars-Sinai Medical Center

Presenter: Navpreet Dhillon MD

Background: Positive fluid balance in the intensive care unit (ICU) may be reflective of the severity of patient illness, and therefore a marker for increased risk of venous thromboembolism (VTE). In addition, the venous distension related to a positive fluid balance might be a cause for VTE. We hypothesized that an early positive fluid balance (FB) would be associated with VTE occurrence.

Methods: A retrospective review of surgical ICU patients at an urban, academic hospital was conducted from May 2011 to December 2014. Data collected included patient demographics, trends in daily FB for the first three ICU days, ventilator days, length of stay (LOS), and imaging results. Patients with a VTE were compared to those who did not develop a VTE (NVTE).

Results: There were 619 patients admitted to the SICU during the study period with 77 (12.4%) diagnosed with a VTE. The VTE cohort was similar to NVTE with respect to age and sex. Those with a VTE had longer ventilator days (4 vs. 3 days, $p < 0.01$) and ICU stay (9 vs. 4.5 days, $p < 0.01$), and were more likely to have a net FB $\geq 4L$ over the first three days (62% vs. 44%, $p < 0.01$). After adjusting for confounders, a FB $\geq 4L$ over the first three ICU days was found to be an independent predictor of VTE (AOR 1.74, $p = 0.04$).

Conclusion: Patients with an early positive fluid balance are more likely to develop a VTE. Clinicians should increase VTE surveillance in this population and future research is required to determine if avoiding an early positive fluid balance reduces VTE rate.

ePOSTER ABSTRACTS

(Monitor # 3)

P41. CLINICAL SIMULATION-BASED ASSESSMENT OF VENTILATOR MANAGEMENT

P Mehta MD, NK Dhillon MD, H Vora MD, G Barmparas MD, EJ Ley MD, S Karlan MD, R Chung MD

Cedars-Sinai Medical Center

Presenter: Pratik Mehta MD

Background: Interns rotating through the surgical ICU (SICU) are taught a wide range of critical care topics through formal instruction and clinical exposure. Assessment of an intern's understanding and application of critical care topics are often subjective. We wished to establish an objective metric to help evaluate the efficacy of their training. Surgical interns underwent a clinical simulation-based assessment on ventilator management before and after their SICU rotation.

Methods: Categorical and preliminary surgical interns in our urban, academic institution underwent clinical assessments in our simulation center three times a year from 2015 to 2017. Interns were tested on procedural skills and simulated patient care. One station was designed to assess their ability to manage a patient on a ventilator. They were scored on a scale of 0 to 18 on elements designed to assess the recognition and treatment of a simulated case of acute respiratory distress syndrome. Assessments completed prior to a SICU rotation and those completed afterwards were categorized as PRE and POST, respectively. Interns who did not have both a PRE and a POST score were excluded from analysis. Standard statistical analysis was utilized for comparing.

Results: Over two academic years (2015-2017), 13 underwent a clinical simulation-based assessment both prior to after their SICU rotation; this included two categorical general surgery interns and eleven designated preliminary interns (3 anesthesia, 6 orthopedic, and 2 urology). Scores improved following completion of a SICU rotation (PRE 9.2 ± 3.0 vs. POST 13.0 ± 3.4 , $p < 0.01$).

Conclusion: Assessment of training in the surgical ICU is difficult and if often subjective. Utilizing clinical simulation-based assessments can provide objective evidence of an intern's understanding and mastery of an aspect of patient care. While we started with assessment of ventilator management, this principle can be expanded to include other critical care topics. Additionally, these assessments can be used to identify deficits which require additional educational focus during the SICU rotation.

ePOSTER ABSTRACTS

(Monitor # 3)

P43. PARATHYROIDECTOMY: DOES SURGICAL APPROACH INFLUENCE RECURRENCE RATES?

JA Cirino MD, NC Luehmann MD, WR Barnes MD, EE Abbott DO, JM Robbins MD, PF Czako MD, S Nagar MD

Beaumont Hospital

Presenter: Jennifer Cirino MD

Background: Surgical excision of parathyroid tissue is the only cure for primary hyperparathyroidism. There are currently two surgical approaches that include traditional four-gland exploration and focused exploration with preoperative imaging and/or the use of intraoperative adjuncts. The purpose of our study was to examine if there is a difference in long time recurrence rates between patients who undergo four-gland exploration versus focused parathyroidectomy.

Methods: A retrospective chart review of all patients who underwent a parathyroidectomy for primary hyperparathyroidism from January 2001 through March 2015 was conducted. The patient's charts were reviewed to determine the operative approach as well as postoperative levels of calcium and PTH to determine persistence or recurrence. Using a chi-square test we determined outcomes in the focused exploration group compared to the four-gland exploration. Kaplan-Meier disease free survival estimates were plotted to further characterize the time pattern of disease recurrence.

Results: Our initial analysis included 1,884 patients. In total 1,099 patients had postoperative calcium and PTH levels drawn and were included in the final analysis. Among these patients, 804 underwent a minimally invasive parathyroidectomy and 295 patients underwent a four-gland exploration. The overall recurrence rate was 5.9%. There was no difference in recurrence rates between the focused exploration and four-gland exploration groups (6.4% vs 4.8%, $p=0.31$). There were 17 patients with complications, 1.2% (9/784) in the focused exploration and 2.7% (8/293) in the four-gland exploration ($p=0.09$). The median follow up time was 5.8 years with a range of 6 months to 15 years. A higher drop in intraoperative PTH (85% vs 76%, $p<0.01$) was associated with a lower rate of recurrent disease.

Conclusion: Our results indicate there is no difference in the long-term recurrence rates of primary hyperparathyroidism between four-gland exploration and focused surgical approaches for parathyroidectomy. While no statistically significant difference in the complication rates between the two groups, there was a trend toward lower rates in the focused exploration group. Therefore, we would recommend a focused approach whenever feasible. Also, a higher drop in intraoperative PTH levels may need to be considered to be accepted for biochemical cure to decrease the risk of recurrence.

ePOSTER ABSTRACTS

(Monitor # 3)

P46. COMPLIANCE AND VARIANCE IN TEACHING ASSISTANT EXPERIENCE DURING SURGICAL RESIDENCY

Mitesh Patel MD, Harit Kapoor MD, Vijay K Mittal MD

Providence Hospitals and Medical Center

Presenter: Mitesh Patel MD

Background: Starting in the 2014-2015 calendar year, the American Council for Graduate Medical Education (ACGME) and the American Board of Surgery (ABS) have made it a requirement, that a graduating surgical resident must complete at least 25 cases acting as a teaching assistant (TA) during residency training. The ACGME allows a resident to log a case as a TA during the 4th or 5th years of residency, whereas the ABS allows only a 5th year resident to act in a TA capacity. The definition of teaching assistant may vary from program to program. Also the types of cases that chief residents are performing as TA as well as the setting in which they are performed differs amongst various programs. The purpose of this study was to gain insight as to how many cases graduating chief residents are logging as TA, the setting in which they are done, as well as the types of cases that are being performed.

Methods: An online survey consisting of 21 questions was sent via email to all general surgery program directors across the nation between August and October of 2015. Questions regarding number of cases performed as a TA, types of cases performed as a TA, the setting in which they were performed, as well as the level of resident supervised by a TA were asked.

Results: Of the 200 surveys that were delivered, we received 88 responses(44%). Fifty-two percent of programs stated that their graduating residents generally log more than 25 cases as TA upon graduating. Thirty-six percent of programs stated that a PGY4 could act as a TA, however 31% of programs stated that they had no specific level of training requirement for a resident to act as a TA. Fifty-two percent of programs stated that a junior resident needed to perform more than 50% of a case in order for a senior resident to log a case as a TA. All 88 respondents(100%) stated that their senior residents acted as a TA in the operating room, 59% acted as TA in the clinic, 66% on the surgical floors, and 70% in the emergency room. Forty-eight percent stated that residents were logging cases as TA in both open and laparoscopic operations and also that they perform cases in both the elective and emergent setting.

Conclusion: The definition of a teaching assistant differs amongst programs. Also, the types of cases that residents log as a TA varies amongst programs because there are no clear guidelines set by the ACGME and ABS as to what constitutes a TA case. Nonetheless, in most programs, senior residents are performing more than 25 TA cases upon graduation based upon our results.

ePOSTER ABSTRACTS

(Monitor # 3)

P50. PATENCY OF LONG TERM DIALYSIS ACCESS IN HEMODIALYSIS PATIENTS AFTER PERCUTANEOUS TREATMENT OF CENTRAL VEIN STENOSIS

C Chan MD, R Bennett MD, SG Katz MD

Huntington Memorial Hospital

Presenter: Carney Chan MD

Background: Central vein stenosis (CVS) or occlusion is a common problem affecting patients who undergo hemodialysis access. In recent years, percutaneous intervention has become the primary means of management for this. Studies to date have recorded variable results. It is the objective of this study to determine how effectively fistula functionality is maintained in patients undergoing percutaneous treatment for central vein stenosis in a single institution.

Methods: The records for all patients undergoing percutaneous intervention for symptomatic subclavian, brachiocephalic, or superior vena caval stenosis at a single institution during an eight year period were reviewed. Patient demographics and risk factors, location of the central vein stenosis or occlusion, the type of treatment, and total interventions performed were recorded. Primary angioplasty with selective stenting was the treatment modality of choice. Access failure was said to occur when a fistula was no longer used as the primary means of hemodialysis access. Kaplan-Meier curves were created to determine fistula functionality at 12, 24, 36, and 48 months. A univariate analysis was used to determine if any factors contributed to fistula failure following percutaneous treatment. Statistical significance was assumed at $p < 0.05$.

Results: Between 2009 and 2016, 162 patients were treated percutaneous angioplasty with selective stenting for CVS. Median age was 69. Ninety-four men and 68 women were treated. One hundred forty-two patients had hypertension, 93 had diabetes, 48 had a history of coronary artery disease or myocardial infarction, and 15 had active tobacco use. Ninety-three fistulas were created on the left and 68 were on the right. There were 73 brachiocephalic, 51 brachiocephalic, two brachioradial, and 36 prosthetic bridge fistulas. On initial presentation, 81 patients had subclavian disease, 69 had brachiocephalic disease, and 12 had disease at multiple locations. After intervention, 59%, 52%, 48%, and 40% of fistulas continued to be used as the primary means of dialysis access at 12, 24, 36, and 48 months, respectively. To maintain function, 2.59 interventions were needed per access. During the course of the study, 68 fistulas failed. Of those, 59 failed due to thrombosis and nine were abandoned for intractable swelling, pain, bleeding, or infection. Co-morbidities, disease location, fistula type, and patient risk factors did not influence outcome.

Conclusion: Percutaneous treatment of central venous occlusive disease in patients undergoing hemodialysis can significantly prolong access functionality, although multiple procedures may be required. Since we were unable to identify any factors significant for access failure, all patients with CVS should be considered for this treatment modality.

ePOSTER ABSTRACTS

(Monitor # 4)

P51. IDENTIFYING TOP PRIORITIES FOR FACULTY DEVELOPMENT USING THE DELPHI CONSENSUS METHOD

SB Deal MD, A Alseidi MD EdM, JG Chipman MD, JM Gauvin MD, MP Meara MD MBA, R Sidwell MD, D Stefanidis MD PhD, PJ Schenarts MD

Virginia Mason Medical Center

Presenter: Shanley B Deal MD

Background: Faculty teaching skills are critical for optimal surgical education. Despite recent efforts to improve faculty teaching among surgical educators, there remains a disconnect between resident and faculty perceptions of teaching skills. A needs assessment of the faculty would help coordinate and prioritize efforts to improve surgical teaching. The objective of this study was to identify top priorities for faculty development as perceived by surgical educators.

Methods: The Delphi method is a systematic process of collecting and evaluating a research question by gathering expert opinions through multiple rounds of survey to achieve group consensus. We used a modified Delphi methodology to develop a survey to gauge surgical faculty perceptions of the value of faculty development activities, teaching strengths and weaknesses, best learning modalities, as well as barriers and priorities for faculty development. An expert panel developed and piloted the initial survey via a web-based tool for distribution to the surgical educator membership of the Association of Program Directors in Surgery (APDS). Responses were reviewed by the expert panel and condensed to 3 key questions with responses for redistribution to the survey participants for final ranking.

Results: Eight experts reviewed responses from 110 participants across 8 questions. 35 participants determined the final ranking responses to 3 key questions. The top three priorities for faculty development were: 1) Resident assessment/evaluation and feedback 2) Coaching for faculty teaching and 3) Improving intraoperative teaching skills. The top 3 learning modalities were: 1) Coaching 2) Interactive small group sessions and 3) Video-based education. Barriers to implementing faculty development included time limitations, clinical workload, faculty interest, and financial support. The highly valued faculty development opportunities included the American College of Surgeons, Surgeons as Educators course, APDS and the Association of Surgical Education annual meeting workshops, and local faculty development programs. Educator weaknesses were giving feedback, impatience and generational differences. Educator strengths included the ability to connect with a variety of learners, patience, communication, and dedication to training surgeons with a commitment to the educational mission of our profession.

Conclusion: The top priorities for faculty development initiatives should focus on resident assessment, coaching for faculty teaching skills and intraoperative teaching using a combination of coaching, small group didactic and video based education. Concerted efforts to recognize and financially reward the value of teaching and faculty development is required to support these endeavors and improve the learning environment for both residents and faculty.

ePOSTER ABSTRACTS

(Monitor # 4)

P52. WHAT'S IN THE TRASH: LESSONS LEARNED FROM STUDYING OPENED BUT UNUSED MATERIALS IN THE OPERATING ROOM

R McKee MD MPH, BA Ross BA, M Hulou MD, TG Pollard, B Blacker, A Crawley, JM Glenn MD, ZO Jones MD, SR Cali MD, GC Duniuan MD, MT Nelson MD

University of New Mexico Hospital

Presenter: Rohini McKee MD MPH

Background: Our hospital has 500 adult beds with 15 operating rooms. We perform an average of 812 cases a month. The operating room does not have a central inventory system and it was not clear how much disposable equipment being wasted and the cost associated with that waste. Our hypothesis was that we had a significant amount of wastage of disposable equipment. Our goal was to analyze the amount and type of disposable waste across various specialties.

Methods: This is a direct observational study that occurred in a single institution. Six rooms in the main operating room were studied over a period of eight weeks. The circulating nurses were asked to place any open but unused materials in a bin that had a green bag, separate from the regular trash and the biohazard bag. Materials with sharps and items soiled with body fluids were discarded but packaging retained. The research team collected these bags and logged each individual item using the catalog and reference number. A cost was assigned to each individual item based off the hospital's supply catalog. Variables tracked included CPT code, operative time, estimated blood loss (EBL), emergent vs elective nature of the procedure, speciality and cost of each wasted item. Statistical analysis was performed using SPSS version 24 (IBM Inc., New York City, NY). EBL was examined at 50cc, 100cc and 200cc cutoffs. Operative time was examined at 1 hour, 2 hour and 3 hour cutoffs.

Results: 651 cases were done in these six rooms over a two month period. Our study captured 24.5% of these cases. We observed 160 cases across 7 specialties, including general surgery, emergency general surgery, urology, transplant, cardiothoracic surgery, otolaryngology, orthopedics and gynecology. The total cost of wasted equipment for this period was \$7541. The estimated cost for this type of waste for the entire year for the operating room was \$426,500. The most frequently wasted items were gowns, skin staplers and gloves, but the highest cost items were energy devices, clip applicators and stapler reloads. Variables associated with waste were blood loss of greater than 50 cc and operative times greater than 2 hours. The emergent nature of the case did not influence cost of wasted materials.

Conclusion: This small pilot study confirmed that there was significant wastage of disposable equipment and justifies dedication of resources to examine waste in a more systematic manner. The cost of wasted equipment was likely underestimated due to a higher percentage of cases captured performed during the day as well as observer bias. When comparing the items wasted to the current system in place for manual recording of waste, there was a significant discrepancy in number of items recorded, justifying the need for a centralized inventory system. Interventions facilitated by this study were correction of preference cards, removal of commonly wasted items from trays and moving items to "hold" categories, rather than opening items before the start of the case.

ePOSTER ABSTRACTS

(Monitor # 4)

P55. SYNOPTIC OPERATIVE REPORTING FOR LAPAROSCOPIC CHOLECYSTECTOMY AND PANCREATICODUODENECTOMY: A MULTI-INSTITUTIONAL PILOT STUDY EVALUATING COMPLETENESS AND SURGEON PERCEPTIONS

SB Deal MD, A Alseidi MD EdM

Virginia Mason Medical Center

Presenter: Shanley Deal MD

Background: Synoptic operative reporting has been shown to be more accurate in a few single institution experiences. We sought to examine the completeness of synoptic operative reports (SOR) for both laparoscopic cholecystectomy (LC) and pancreaticoduodenectomy (PD) in a multi-institutional pilot study.

Methods: Literature review and expert content analysis was used to develop an SOR for each procedure using a web-based survey link. Six institutions for PD and 7 for LC were recruited for participation. Cases were entered between November 2016 and May 2017. One institution collected associated dictated operative reports (DOR) as well as case matched historical dictated operative reports (HOR) for subset analysis. A checklist based on each SOR evaluated the completeness of all reports using descriptive statistics. A post-survey was sent to participants in each group to assess their experience using the SOR tool and results were analyzed using thematic analysis.

Results: 40 PD SORs were 98.5% complete; 27.5% were missing clinical stage. 35 LC SORs were 99.7% complete. Single institution subset analysis respective percentages complete were: 11 PD SORs 99%, DORs 70% and HORs 74% and 14 LC SORs 99.7%, DORs 76%, and HORs 75%. The percentage of frequently missed components for LC were: incomplete critical view of safety description (DOR 39%, HOR 41%), antibiotics given (DOR 29%, HOR 50%), counts correct (DOR 64%, HOR 79%), and indication for performing an intraoperative cholangiogram (DOR 50%, HOR 60%) and for PD were: clinical stage (DOR 91%, HOR 78%), stent type (DOR 45%, HOR 71%), resection R0/R1 (DOR 91%, HOR 80%), and pancreatic duct stent placement or not (DOR 73%, HOR 55%). Post survey results yielded 24 LC and 10 PD responses. Percent responding agree or strongly agree to the following statements were: 1) SOR was easy to use (LC 93%, PD 67%); 2) I would use SOR over DOR (LC 87%, PD 83%); 3) SOR would improve my ability to conduct QI projects (LC 87%, PD 67%). Benefits of use included standardized reporting, ability to conduct quality research, and removal of dictation costs. Barriers to using SOR included user-friendly electronic medical record (EMR) integration, information technology (IT) support, surgeon preference to dictate, and concerns over template abuse similar to standardized outpatient notes.

Conclusion: SOR are more complete than both study associated dictated operative reports and historical case matched dictated operative reports. The majority of surgeons indicated their preference for SOR and their willingness to use them. However, barriers to overcome included EMR integration, meaningful use, and IT support.

ePOSTER ABSTRACTS

(Monitor # 4)

P56. ASSOCIATION BETWEEN SURGICAL DELAY AND POST-OPERATIVE MORBIDITY IN THE MANAGEMENT OF PERFORATED PEPTIC ULCERS

BR Movitz, F Bryan, SS Kingsley, RE Lutfi

University of Illinois Metropolitan Group Hospitals

Presenter: Jamie O'Rear MD

Background: Untreated peptic ulcer disease remains a common problem among patients with limited access to healthcare. Perforated peptic ulcers (PPU) carry significant risk of morbidity and mortality. Early resuscitative efforts and source control are cornerstones in management; however, definitive operation may be delayed for multiple reasons. There is limited data describing the effect of timing of operation on patient outcomes. The aim of this study is to analyze the effect of timing from presentation in the emergency department to operation on morbidity for patients with PPU.

Methods: This is a retrospective analysis of all patients undergoing exploratory laparotomy with the finding of PPU at a single, intercity hospital from May 2009 – December 2016. Data: Patient demographics, co-morbidities, and clinical data were reported. Outcome measures: Post-operative complications (MI, stroke, PE, pneumonia, wound infection, wound dehiscence, peritoneal abscess, fistula, mortality), 30-day readmission, and length of stay (LOS).

Results: 52 patients with PPU were included; 13 (25%) suffered a major post-operative complication and 5 (9.6%) were readmitted. The median time to OR was 6.9 hours. The average time for patients with complications was 33.2 hours, and 12.3 hours for those without ($p<0.07$). Average time to OR was 62.5 hours for those with a 30-day readmission versus 13.2 hours for those without ($p<0.03$). Multivariate analysis demonstrated a strong correlation (0.0822, $p<0.0001$) between OR delay and LOS. Delay in patients with COPD is particularly detrimental (0.1851, $p<0.032$).

Conclusion: In patients with PPU, increasing time from initial presentation to operation is associated with increased morbidity, length of stay, and readmission.

ePOSTER ABSTRACTS

(Monitor # 4)

P57. COMP GENE IS OVEREXPRESSED IN EARLY-ONSET COLON CANCER, CO-EXPRESSED WITH EMT GENES AND ASSOCIATED WITH POOR SURVIVAL

VN Nfonsam MD MS, J Jandova PhD, D Chen MS, R Runyan PhD

University of Arizona

Presenter: Valentine Nfonsam MD MS

Background: Although overall incidence of colon cancer (CC) has declined over the last three decades, the incidence has increased in patients younger than 50. The etiology of early-onset (EO) CC is not fully understood. Increased expression of Cartilage Oligomeric Matrix Protein (COMP), normally expressed in cartilage, was shown to confer tumor aggressiveness in prostate and breast cancers. Tumor aggression is often correlated with epithelial-mesenchymal transition (EMT). EMT is a developmental process characterized by cell separation and invasion that is recapitulated in metastasis. The aim of this study was to elucidate gene expression patterns in EOCC, show its uniqueness compared to late-onset (LO) disease, and demonstrate correlation of EOCC gene expression and EMT genes. We also find that overexpression of COMP gene is associated with poor survival.

Methods: Tumors and matching noninvolved tissues from 6 EOCC patients (<50 years old) and 6 late-onset colon cancers (LOCC) patients (>65 years old) were obtained from pathology archives. Deparaffinized tissues were macrodissected from FFPE sections, RNA isolated, and used for expression profiling of 770 cancer-related genes. Survival analysis was performed using the cBioPortal for cancer genomics using 367 CRC patients extracted as a subset of the TCGA COADREAD database. The data, gene-level transcription estimates, are shown as $\log_2(x+1)$ transformed RSEM normalized count. We compared expression patterns between COMP and EMT markers for 433 CRC patients from the TCGA COADREAD database using the UCSC Cancer Browser.

Results: Among 770 genes assayed, 93 genes had changes in expression levels that were statistically significant between EOCC and matching noninvolved tissues and 118 genes had differences in expression levels between LOCC and matching noninvolved tissues. Comparative gene expression analysis between EOCC and LOCC normalized to their matching noninvolved tissues revealed changes in expression of 88 genes unique to EOCC using the cutoff criteria of expression levels difference >2 fold and P value <0.01. In this set, 28 were upregulated and 60 downregulated. COMP was one gene uniquely overexpressed in EOCC. Survival analysis of 367 patients with CRC tumors using cBioPortal for cancer genomics showed CRC patients with increased COMP expression ($>=1.657$) presented with poorer overall survival compared to patients with unchanged (-1.025 to 1.657) or reduced COMP expression ($<= -1.025$). A log-rank test produced a p-value of 0.0006. Further analysis of data from the cBioPortal showed coexpression of COMP with EMT markers Snai1, Snai2, Zeb1, Zeb2, Twist1, periostin, and MMP9.

Conclusion: These results suggest that sporadic EOCC is characterized by distinct molecular events compared to LOCC. In addition, COMP is overexpressed in EOCC, and associated with EMT markers and with poor overall survival. It may potentially serve as a novel biomarker associated with EOCC as COMP protein can be detected in serum and urine.

ePOSTER ABSTRACTS

(Monitor # 4)

P58. LAPAROSCOPIC TYPE IV HIATAL HERNIA REPAIR WITH TOUPET FUNDOPPLICATION: CLINICAL OUTCOMES AND LESSONS LEARNED

Victoria Chang, MD, Grant Garwood, MS, David Roife, MD, Chandni Kaushik, MS, Charles C Miller PhD, Farzaneh Banki, MD

McGovern Medical School at the University of Texas Health Science Center at Houston

Presenter: Grant Garwood MS

Background: Laparoscopic repair of type IV hiatal hernia is challenging. Prior studies have reported on Nissen fundoplication. The aim is to assess clinical outcomes with Toupet fundoplication and identify lessons learned.

Methods: Patients who underwent laparoscopic repair of type IV hiatal hernia from 03/31/2011 08/30/2016 by a single surgeon were followed prospectively, using a phone questionnaire. All procedures were performed by the same anesthesia and OR team. The postoperative care was provided by a trained team of thoracic nurses.

Results: From 03/31/2011 08/30/2016: There were 294 hiatal hernia repairs. 101 consecutive type IV were included: 99 Toupet, 1 Dor and 1 crural closure. Values: median (IQR), 80 (79%) F, 21(21%) M, age: 68 (60-77), ASA: 3 (2-3), BMI: 29.4 (25.4-34.4), % herniated stomach: 80% (50-100). Other organs: omentum in all, 5 colon, 4 small bowel, 1 pancreas. The 3 most common chief complaints: 22% dysphagia, 18% epigastric pain, 13% heartburn. No strictures, 14% esophagitis, 3% Barrett's esophagus, 4% Schatzki's ring. Duration of operation: 143 min (125-179). None required Collis gastroplasty, 88% mesh, 1 conversion (none in the last 51 cases), 1 esophageal leak (none in the last 86 cases), and 1 transfusion. All had clear liquid diet in the post anesthesia recovery. Esophagram: 83% on POD #1. The distal esophageal angulation before repair (n=62) was 43.5 degrees (24-59) and after (n=83) was 76 degrees (66-85). Comparison for 52 matched values showed a significant improvement of 32 degrees (11-48), (p=0.0001). LOS: 2 days (1-3). No 30-day or in hospital mortality. Perioperative complications: 4 atrial fibrillation, 8 NGT placement, 1 HIT, 5 reintubation, 1 laparoscopic retrieval of Penrose, 2 DVT. Post-operative complications: 2 dilations, 1 port site hernia, 1 bowel obstruction, 1 empyema, 1 mediastinal hematoma, 2 pulmonary emboli. At the time of questionnaire there were 3 non related deaths. Questionnaire was obtained in 83/98 (85%) at 14 months (9-28), 93%: free of dysphagia, all were free of epigastric pain, 96%: free of heartburn, 96% able to eat as desired, 95% satisfied with the operation, 73% returned to daily activity < than 2 weeks, weight change: -0.5 (-10.0-4.5), 7% diarrhea, 17% excessive gas, 13% gas bloating: The use of PPI: 77% (before) vs. 14% (after) (p<0.001). Reoperation for symptomatic recurrent hiatal hernia: 6/83 (7%), 1 at POD #3 and 5 at 18 months (8.4-29.0), 4 were repaired laparoscopically, 2 required Roux en-Y esophagojejunostomy. None of the remaining patients had a reoperative hiatal hernia repair at our institution.

Conclusion: Laparoscopic repair of type IV hiatal hernia with Toupet fundoplication can be performed with low morbidity and excellent patient satisfaction. The most common chief complaint prior to repair is dysphagia that resolves in 93%. Leak and conversion can be minimized over time. Tension free esophageal length can be achieved without Collis gastroplasty. Reoperation for symptomatic recurrence is rare.

ePOSTER ABSTRACTS

(Monitor # 4)

P60. THREE YEAR ANALYSIS OF A NOVEL MILESTONE-BASED ASSESSMENT OF FACULTY BY GENERAL SURGERY RESIDENTS

J Schoen MD, RE Brown MD, A Rivere MD, N Bolton MD, T Smith MD, V Adolph MD, GM Fuhrman MD

Ochsner Clinic Foundation

Presenter: Jonathan Schoen MD

Background: In response to our faculty's concerns about the quality and reliability of feedback from general surgery residents, we developed a novel faculty assessment tool. This study was designed as an interim analysis of this tool's effectiveness and discriminatory ability.

Methods: Our department's educational leadership developed milestones in seven domains that were scored one to four with each level demonstrating an educational approach that ranged from "ineffective" to "ideal". Each PGY class meets annually to develop a consensus regarding each faculty member's effectiveness in seven domains: (1) operative supervision (2) operative teaching, (3) clinic/hospital supervision (4) clinic/hospital teaching, (5) conference participation, (6) availability, and (7) overall contribution to the training program. We reviewed the results from the initial three years of this project. The annual national faculty survey administered by the ACGME was also analyzed to evaluate faculty satisfaction regarding feedback over the same study period. Data were assessed using Levene's test for homogeneity, ANOVA, and Wilcoxon-Mann-Whitney tests.

Results: Forty-two faculty members were evaluated by a range of 29-32 residents. Twenty core faculty members were included on the annual ACGME survey. Each resident PGY class assigned faculty milestone scores that varied across the seven domains, demonstrating that faculty scores reflected variable opinions about each specific domain, while avoiding labeling an effective faculty member with all high scores and a less effective member with all poor scores. ($p < 0.0001$). Milestone scores for a given faculty member differed across PGY classes, indicating that junior residents might evaluate a specific faculty member differently than senior residents. ($p < 0.0001$). The results from the three year study period on the ACGME anonymous faculty survey reflected an enhanced satisfaction with resident feedback of faculty during the study period improving from 68% vs 85% compliance with ACGME standards, our mean program score was 4.1 vs 4.5 with a national mean of 4.4. ($p = 0.02$).

Conclusion: This milestone-based faculty assessment tool improves the quality of the feedback from surgical residents when evaluating faculty. When residents are required to assign a specific statement that best describes faculty performance, the evaluation process is thoughtful and meaningful. A milestone-based faculty assessment strategy should be explored on a national level.



Deaths
AND
Memorials

IN MEMORIAM

DEATHS REPORTED 2016-17

Melvin A. Block

Denton A. Cooley

Alan R. Hopeman

Robert J. Lucas

John L. Sawyers

LeRoy H. Stahlgren

IN MEMORIAM

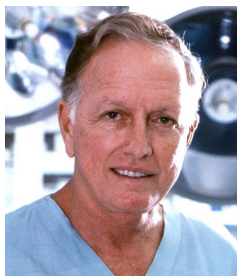
A black and white photograph of two lit candles. The candle on the left is taller and has a larger, more intense flame. The candle on the right is shorter and has a smaller, more delicate flame. The background is solid black, making the white wax and the bright light of the flames stand out. The text is centered in the upper right area of the image.

Melvin A. Block, MD

San Diego, CA

07/02/1921 - 11/05/2016

IN MEMORIAM



Denton Arthur Cooley, MD

1920-2016

Denton Arthur Cooley, MD, native Houstonian, pioneering heart surgeon and founder of the Texas Heart Institute, died at home on Friday, the 18th of November 2016 at age 96. He was born in Houston, Texas, on the 22nd of August 1920, to Mary Fraley Cooley and Ralph Clarkson Cooley, a prominent Houston dentist. His wife of 67 years, Louise Goldsborough Thomas Cooley died one month ago.

Denton Cooley was a proud Houstonian who lived a full and well-rounded life. He maintained lifelong friendships and remained loyal to family, institutions and people, while having a single-minded focus on his work.

Cooley's ties to Houston precede his birth. In 1890, his grandfather, Daniel Denton Cooley, helped develop the Houston Heights, a major suburb of the city. Denton Cooley attended Houston Public Schools – Montrose Elementary, Sidney Lanier Junior High and graduated from San Jacinto High School. He was a proud contributor to the San Jacinto High school newspaper, the "Campus Cub," until the end of his life. He is a graduate of The University of Texas at Austin on a basketball scholarship. There, he was a member of Phi Beta Kappa, Kappa Sigma Fraternity and the Texas Cowboys. Cooley played on the UT basketball team that won the Southwest Conference Championship at Madison Square Garden in 1939. He remained an avid sportsman his entire life.

He attended The University of Texas Medical Branch in Galveston and later transferred to The Johns Hopkins University School of Medicine in Baltimore where he graduated in 1944 with highest honors. He did his surgical residency under renowned surgeon Dr. Alfred Blalock. His training was interrupted between 1946 and 1948 to serve WWII military duty in the 124th Station Hospital in Linz, Austria. Dr. Cooley returned to Baltimore, where he met the beautiful and spirited head nurse of the Halsted surgical floor, Louise Thomas, whom he married in 1949. As an intern under Blalock, Cooley assisted in the first "blue-baby" operation, one of the most important milestones in heart surgery. Upon completing his residency, Denton and Louise moved to London where he joined Lord Russell Brock at the Brompton Hospital as senior surgical registrar.

IN MEMORIAM *Denton Arthur Cooley, MD*

Upon completing his training, Cooley returned to his hometown with his young wife and first daughter, Mary, where he joined the faculty of Baylor College of Medicine. In 1962, he founded the Texas Heart Institute (THI) at St. Luke's Episcopal Hospital. THI is a world leader in research, education and patient care and the fight against heart disease. He served as the THI surgeon-in-chief for over 40 years. He continued operating until he was 87 years old, yet continued to make rounds and visit patients until age 96.

Denton Cooley's career spanned the history of modern heart surgery. His name has become synonymous with medical and technical excellence. Cooley performed the first successful human heart transplant in the U.S. in 1968 and the first human implantation of a total artificial heart in the world a year later. He contributed to techniques for repair and replacement of diseased heart valves and is widely known for his pioneering surgical treatment of cardiac anomalies in infants and children. Along with his team, Cooley performed over 120,000 open heart operations.

Dr. Cooley's astounding manual dexterity and lightning speed enabled him to perform what was once described as a "Woolworth volume of operations with Tiffany quality." He was a master at simplifying the most complex surgical procedures with a smoothness that made them look easy. In the operating room, he was exceptionally calm, even under the most difficult circumstances. His composed and kind demeanor set the tone for THI. He believed in teamwork and did not tolerate prima donnas. Surgeons came from far and wide to observe his surgical prowess. Dr. Christiaan Barnard said, "It was the most beautiful surgery I had ever seen. No one could equal it. Dr. Cooley's skill was matched by his grace and kindness."

It was important to Denton Cooley that he pass his gifts on to emerging surgeons and, thus, established a program that trained hundreds of next-generation leaders in heart surgery. Through them and their trainees, his surgical legacy endures. More than 800 surgeons are members of the Denton A. Cooley Cardiovascular Surgical Society. He truly cared about his residents, colleagues and their families who carry memories of Dr. Cooley, not only at the operating table, but also pitching softball and driving the hayride at the annual Cool Acres hospital picnic.

During his career, Cooley authored more than 1,400 scientific papers and 12 books, including *100,000 Hearts: A Surgeon's Memoir*. His honors and awards include the National Medal of Technology presented by President Bill Clinton; the Medal of Freedom, the nation's highest civilian award, presented by President Ronald Reagan; the Theodore Roosevelt award given by the National Collegiate Athletic Association

IN MEMORIAM *Denton Arthur Cooley, MD*

to a varsity athlete who has achieved national recognition in his profession. Every surgical society bestowed on him its highest honors.

He was a Distinguished Alumnus of The University of Texas, The University of Texas Medical Branch and The Johns Hopkins University. He received honorary degrees from many American and foreign universities.

Dr. Cooley's innovations are not limited to the operating room or the laboratory. He founded a managed health care plan in the early 1980's – the first to “bundle” cardiovascular services into one fixed fee, saving millions of health care dollars. Throughout his life, Cooley supported civic and humanitarian causes. Facilities that bear his name include the Student Center at Johns Hopkins; the Animal Hospital at the Houston Zoo; the University of Texas Basketball Pavilion and Student Center; University of Texas Houston Dental School University Life Center and most recently, the Denton A. Cooley, M. D. Hall at the Texas Medical Center Library which houses his papers and video library.

“He was a transformational leader and dear friend to many. The world has lost a medical genius and a great humanitarian,” said THI President Dr. James T. Willerson. “Dr. Cooley dedicated his life to healing hearts. The number of lives he saved and improved over the years cannot be counted.”

Family was of the utmost importance to Denton Cooley. He always said his family gave him the most joy and his office walls were covered with family photos. He proudly pointed out the newest “great-grand” to anyone who happened in. He loved spending time with his family at Cool Acres Ranch on the Brazos River, the water ski shack on the San Jacinto River or CooleyBunkport, the Galveston family beach house, each of which were close enough to the Medical Center in case of emergency. Denton Cooley had a twinkle in his eye, a keen sense of humor and lived life to the fullest. His legacy lives on through his family, through THI and through the work of his trainees and their trainees. He was a surgeon like no other. He will be missed by all who knew him and by all whose lives he touched.

Denton Cooley was preceded in death by his wife of 67 years, Louise; daughter, Florence Talbot Cooley; his parents; and his brother, Ralph Clarkson Cooley, Jr. He is survived by daughters, Mary Craddock, Susan Cooley, Louise Davis, MD and Helen Fraser and their husbands, John W. Craddock, Jr., MD, Richard T. Davis, and Charles D. Fraser, Jr., MD Also surviving are sixteen grandchildren and spouses.

IN MEMORIAM



Alan Roswell Hopeman, MD

1920-2017

Born: Fargo, N.D. October 20, 1920.

Died: Saint Paul, MN. April 12, 2017

Married Dorothy Marie Carlson, June 12, 1943. She predeceased him in 2012 after 69 years of marriage. Thoracic surgeon, soldier, teacher, family man, and art lover (especially Indian and Japanese). Dr. Hopeman received B.S. degree from Concordia College Moorhead 1942. After serving active duty

in the Army medical corps during WWII, he returned and earned an MD degree from University of Minnesota Medical School in 1950. His army career as a surgeon spanned 24 years of active duty and 5 years of reserve duty. He retired as a colonel after being recognized as a teacher of the “art of surgery” in military hospitals with additional honors of Army Commendation Medal and Legion of Merit. He was named to the Order of Military Medical Merit.

After retiring from the Army in 1970 he sequentially became a professor of thoracic surgery at the Universities of Missouri, Nebraska and Colorado. Medical students, residents and colleagues recognized him at all 3 universities with Golden Apple Outstanding Teacher awards. He finished his second career in academics and was named Emeritus Professor at the University of Colorado where a named lectureship was established. He was also honored as the 6th surgical member of the Colorado Pulmonary Hall of Fame. He continued to volunteer at the Denver Veterans Administration Hospital as a teacher/surgeon after retiring from active practice at University of Colorado.

Dr. Hopeman has also received additional honors from Concordia College (honorary doctorate, 1992 and Outstanding Alumni Award, 2015).

He is survived by 5 children, many grandchildren, great-grandchildren, sister, nieces and nephews. They have learned from him about love of country that includes the people, the land (especially mountains, prairies and deserts). His legacy includes many surgical students who have gone on with careers as physicians and surgeons following the supportive example set by Dr. Hopeman. The patients who have benefited from his service range from those under his direct surgical care to those his students continue to treat. “A big guy, a big heart.”

IN MEMORIAM



Robert J. Lucas, MD

July 10, 2016, Age 85. Loving husband of Barbara for 61 years. Dear father of Michael, MD (Maureen), David, MD (Barbara), Scott, MD and Laura Lucas, MD Beloved grandfather of Tina, Alice, Joseph, Kilean, Erin, Quentin, Adam and Jacob. Great-grandfather of Jack and Noah. Brother of Charles E. Lucas, MD (Suzanne).

IN MEMORIAM



John Lazelle Sawyers, MD

John Lazelle Sawyers, MD, age 90, of Nashville, TN and Lake Wales, FL, passed away on March 18, 2016. He was preceded in death by his wife of 54 years, Julia Edwards Sawyers, MD and his sister, Mary Ellen Imboden of Baltimore, MD. Dr. Sawyers, the son of the late Almira Baker and John Lazelle Sawyers, grew up in Centerville, Iowa. He graduated from the Lawrenceville School in 1943, and matriculated at Princeton University, but enlisted in the United States Navy, serving in the V-12 Navy

College Training Program where he was transferred to the University of Rochester during World War II. He graduated from the University of Rochester in 1946, and enrolled in the Johns Hopkins University School of Medicine, graduating in 1949. He remained in the United States Naval Reserve, being recalled for active duty during the Korean War. Dr. Sawyers joined the faculty of Vanderbilt University School of Medicine in 1957. He served as Chief of Surgery at Nashville General Hospital (1960-1977), Saint Thomas Hospital (1977-1982), and Vanderbilt University Medical Center (1982-1993). At Vanderbilt, Dr. Sawyers succeeded his mentor, Dr. H. William Scott Jr., as the John Clinton Foshee Distinguished Professor of Surgery and Director of the Section of Surgical Sciences in 1983. He retired in 1994 as the Chairman and Distinguished Professor of Surgery, Emeritus at Vanderbilt University Medical School.

At Vanderbilt, Dr. Sawyers spearheaded the development of the Life Flight program, enabling patients to gain access to the medical expertise at Vanderbilt through helicopter transport. Dr. Sawyers also led the growth of the trauma center into the only Level 1 trauma center in middle Tennessee. In his academic capacity, Dr. Sawyers was responsible for leading the education of thousands of future physicians and surgeons. His academic contributions focused on the development of an improved method for surgical management of peptic ulcer disease known as highly selective vagotomy. Dr. Sawyers served on the editorial board of five medical journals, co-authored six surgical textbooks, and published 283 articles in peer-reviewed medical journals. He played a leadership role in multiple medical organizations, serving as President of the Southern Surgical Association, the Halsted Society and the Nashville Academy of Medicine. In recognition of his service, Vanderbilt established the John

IN MEMORIAM *John Lazelle Sawyers, MD*

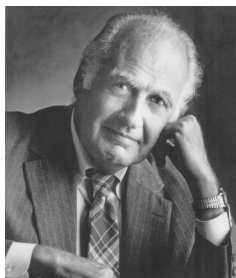
L. Sawyers Award for outstanding contributions to surgical education by a member of the surgical faculty and the John L. Sawyers Chair in the Section of Surgical Sciences.

Dr. Sawyers also held many civic leadership positions. He was President of the Tennessee Division of the American Cancer Society and Chair of the Middle Tennessee Easter Seals Campaign. He was a member of First Presbyterian Church in Nashville.

Dr. Sawyers enjoyed many varied pursuits, particularly travel and, in his retirement, playing golf with his wife, Julia, and many friends.

A devoted husband, father, grandfather, and uncle, he cherished his family. Survivors include his children Dr. Charles Sawyers (Sue) of New York, NY; Al Sawyers of New York, NY; and Julia Triplett (Ed) of Brentwood, TN; and eight grandchildren.

IN MEMORIAM



LeRoy "Roy" H. Stahlgren

1924-2016

LeRoy "Roy" H. Stahlgren passed away November 21, 2016 after a remarkable life well lived. Born in Erie Pennsylvania on June 21, 1924, he left for the University of Pennsylvania at age 16 and received his medical credential 5 years later. Soon after, he joined the Navy and proudly served in the Medical Corps in Guam where he refined his craft. He returned to complete his surgical residency training and to enjoy a long, varied and distinguished surgical career in the

States, including years of teaching as a Professor at the Universities of Pennsylvania, Temple, Mount Sinai and Colorado, where he was thrice being honored as "Teacher of the Year". As Chief of Surgery at Episcopal Hospital in Philadelphia, PA, Saint Barnabas Medical Center in Short Hills, NJ and Saint Joseph Hospital in Denver, CO, he was responsible for the training of hundreds of surgical residents over the years, while finding time to author more than a hundred scientific papers and two medical texts. A man of compassion and caring, Roy regularly volunteered his skills to those in need in Ecuador, Congo, India, China and Thailand.

His first marriage led to four wonderful children: sons LeRoy Jr, Clark and William Stahlgren and daughter Julia Wharton. He shared with them his love of the outdoors – swimming, sailing, hiking – and fondly remembered camping and canoeing together in their youth. They blessed him with six grandchildren: Sarah, Samuel and Turner Wharton and Jacob, Andrew and Jared Stahlgren.

While medicine was a lifelong profession, it alone did not define him as a man. Roy was keenly interested in learning and spread his curiosity over all manner of reading, researching, writing and teaching. His commitment to volunteerism continued, with Board service at numerous organizations, including as chair of the Denver Public Library Friends Foundation. He cherished his membership in the Denver Literary Club and valued the diverse perspectives to which his fellow members exposed him. Roy's passion for world culture led him to teach a course in Chinese history, which, in turn, led him to the great love of his later life, his wife Diana Lee. For 19 joy-filled years, they shared their love of music, art, museum visits, conversation, politics, nature, and hosting legendary dinner parties. She was by his side as he bade farewell to an amazing and full life.

NOTES

NOTES

NOTES