



Central Surgical Association

68TH ANNUAL MEETING

Detroit, Michigan
March 17-19, 2011

FUTURE MEETINGS

2012 March 1-3

Madison, Wisconsin

2013 March 14-16

Amelia Island, Florida

2014 March 6-8

Indianapolis, Indiana

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SPECIAL NOTES

The Marriott at Renaissance Center Detroit will serve as the headquarters for the 2011 CSA Annual Meeting. The registration desk will be open from 3:00 pm to 6:00pm on Wednesday, March 16 and will remain open during the meeting hours on March 17-19. The CSA Registration Desk is located outside of the Mackinac Ballroom, 5th floor.

All scientific sessions will be held in the Mackinac Ballroom of the Detroit Marriott. Continental breakfast will be available for physicians on Thursday, Friday and Saturday mornings beginning at 7:00am in the Marquette Room, where the Exhibits will be displayed. Spouses and companions can enjoy breakfast Thursday and Friday mornings in the Michelangelo Room from 8:00am-10:00am and on Saturday morning they can join the physicians for breakfast. Meeting registrants are encouraged to visit the tabletop exhibits during breakfasts and refreshment breaks on Thursday and Friday.

A Welcoming Reception will be held on Thursday, March 17 at the Detroit Institute of Arts from 6:30pm-8:30pm. Transportation will be provided.

The Annual Reception and Dinner will be held on Friday, March 18 in the Cartier Ballroom of the Detroit Marriott from 7:00pm-10:00pm. Members, registered guests and spouses are cordially invited and encouraged to attend.

Business attire is recommended for the Welcome Reception, and the Dinner Dance is black tie optional, with a distinct Motown theme. Cost for the evening events is included in the registration fee for all physicians and spouses.

SPECIAL NOTES *(continued)*

The Executive Council reminds its membership the contact information for the Central Surgical Association is:

WEBSITE

www.centernalsurg.org

ADDRESS

5810 W. 140th Terrace
Overland Park, KS 66223

PHONE

(913) 402-7102

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PLEASE MAIL ANY REGISTRATION OR DUES PAYMENTS TO:

Central Surgical Association
PO Box 413216
Kansas City, MO 64141

OFFICERS AND COUNCILORS 2010-2011

President

Michael S. Nussbaum..... 2010-2011

President-Elect

Gerald M. Fried..... 2010-2011

Secretary

Nathaniel Soper..... 2009-2012

Treasurer

Christopher R. McHenry..... 2008-2011

Recorder

Gerald M. Larson..... 2007-2011

Councilors

Fred A. Luchette..... 2010-2011

William D. Turnipseed 2010-2011

Wendy Wahl..... 2009-2012

Representatives to the ...

American Board of Surgery

Fabrizio Michelassi - *New York, NY*..... 2006-2012

Board of Governors

American College of Surgeons

Layton F. Rikkers - *Madison, WI*..... 2008-2011

Advisory Council for Surgery

American College of Surgeons

E. Christopher Ellison - *Columbus, OH*..... 2007-2013

OFFICERS AND COUNCILORS

2010-2011 *(continued)*

Program Committee

David M. Mahvi (Chair)	2008-2011
W. Scott Melvin	2008-2011
Tina Yen	2009-2011
C. Max Schmidt	2009-2012
Gilbert Upchurch, Jr.	2009-2012
Mark Eskandari	2010-2013
Ronald Weigel	2010-2013

Ex Officio

Scott A. Gruber
Gerald M. Larson
Nathaniel Soper

Membership Advisory Committee

Thomas H. Cogbill (Chair)	2008-2011
Anita P. Courcoulas	2008-2011
Julian A. Kim	2008-2011
Steven M. Steinberg	2008-2011
Anees Chagpar	2009-2012
Doug Evans	2010-2013
Jon Gould	2010-2013
M. Ashraf Mansour	2010-2013
Scott Wilhelm	2010-2013

Ex Officio

Nathaniel Soper

Auditing Committee

Girma Tefera	2010-2011
Tara Breslin	2010-2011

Nominating Committee

E. Christopher Ellison (Chair)	2008-2011
Richard Bell, Jr.	2009-2012
Michael Dalsing	2010-2011
James DeBord	2010-2011
William Turnipseed	2010-2013

EDUCATIONAL OBJECTIVES

LEARNING OBJECTIVES - This program has been constructed by the Program Committee of the Central Surgical Association and has been selected from abstracts submitted by the membership of the Association. The subject matter selected is a cross-section of cutting edge practices of surgery today. The intention of the program is to add to the basic knowledge and understanding of surgical disease, to analyze the result of new approaches or techniques for managing disease and to examine new concepts in surgical science.

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

AMA PRA CATEGORY I CREDITS™ - The American College of Surgeons designates this live activity for a maximum of 17.25 *AMA PRA Category I Credits™*. Physicians should claim only credit commensurate with the extent of their participation in the activity.



*American College of Surgeons
Division of Education*

DISCLOSURE INFORMATION - 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. Please see the insert to this program for the complete disclosure list.

EDUCATIONAL GRANTS AND EXHIBITORS

Special thanks to the following companies for their educational support of this event

Ethicon Endo-Surgery, Inc.

The Central Surgical Association gratefully acknowledges the support of the following exhibiting companies:

Astellas Pharma US, Inc.

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Ethicon Endo-Surgery, Inc.

Forest Pharmaceuticals

GlaxoSmithKline

Merck

Molnlycke Healthcare

Novartis Pharmaceuticals Corporation

Olympus Surgical America

StarSurgical, Inc.

Two-Six Group

U.S. Army Health Care

SCHEDULE OF EVENTS

WEDNESDAY, MARCH 16, 2011

3:00pm - 4:30pm

Council Meeting - *Nicolet B*

3:00pm - 6:00pm

CSA Registration - *Mackinac Bridge*

3:00pm - 6:00pm

Exhibit Setup - *Marquette*

4:30pm - 5:30pm

CSA Foundation Meeting - *Nicolet B*

THURSDAY, MARCH 17, 2011

6:00am - 7:15am

Exhibit Set-Up - *Marquette*

6:00am - 5:00pm

CSA Registration - *Mackinac Bridge*

7:00am - 8:00am

Continental Breakfast for Physicians - *Marquette*

7:30am - 3:30pm

Exhibits Open - *Marquette*

8:00am - 10:00am

Spouse & Companion Breakfast - *Michelangelo*

8:00am - 10:00am

Scientific Session: Local Program - *Mackinac Ballroom*

10:00am - 10:15am

Refreshment Break & Exhibits - *Marquette*

10:15am - 10:45am

Case Presentation: Trauma - *Mackinac Ballroom*

SCHEDULE OF EVENTS *(continued)*

10:45am - 11:15am

Case Presentation: Upper GI - *Mackinac Ballroom*

11:15am - 11:45am

Case Presentation: Vascular - *Mackinac Ballroom*

11:45am - 12:15pm

Case Presentation: Breast - *Mackinac Ballroom*

12:15pm - 1:15pm

Lunch Break - *on own*

1:15pm - 2:45pm

Scientific Session I - *Mackinac Ballroom*

2:45pm - 3:15pm

Refreshment Break & Exhibits - *Marquette*

3:15pm - 5:15pm

Scientific Session II - *Mackinac Ballroom*

6:30pm - 8:30pm

Welcome Reception - *Detroit Institute of Arts*

FRIDAY, MARCH 18, 2011

7:00am - 5:00pm

CSA Registration - *Mackinac Bridge*

7:00am - 8:00am

Continental Breakfast for Physicians - *Michelangelo*

7:30am - 4:00pm

Exhibits Open - *Marquette*

8:00am - 10:00am

Spouse & Companion Breakfast - *Michelangelo*

SCHEDULE OF EVENTS *(continued)*

8:00am - 9:30am

Scientific Session III - *Mackinac Ballroom*

9:30am - 10:00am

Refreshment Break & Exhibits - *Marquette*

10:00am - 11:15am

Scientific Session IV - *Mackinac Ballroom*

11:15am - 11:30am

CSA Foundation Awards - *Mackinac Ballroom*

11:30am - 12:15pm

Address of the President - *Mackinac Ballroom*

12:15pm - 1:15pm

President's Luncheon for New Members - *Michelangelo*

1:15pm - 3:30pm

Scientific Session V - A - *Mackinac Ballroom*

1:15pm - 3:30pm

Scientific Session V - B - *Brule*

3:30pm - 4:00pm

Refreshment Break: Exhibitor Introductions - *Marquette*

4:00pm - 5:15pm

Debate: Single Incision Laparoscopy - *Mackinac Ballroom*

5:15pm - 5:45pm

Annual Business Meeting - *Mackinac Ballroom*

7:00pm - 10:00pm

Annual Reception and Dinner - *Cartier*

SCHEDULE OF EVENTS *(continued)*

SATURDAY, MARCH 19, 2011

7:00am - 11:15am

CSA Registration - *Mackinac Bridge*

7:00am - 8:00am

Continental Breakfast for Physicians & Spouses - *Mackinac Bridge*

8:00am - 9:30am

Scientific Session VI - *Mackinac Ballroom*

9:30am - 9:45am

Refreshment Break - *Mackinac Bridge*

9:45am - 11:15am

Scientific Session VII - *Mackinac Ballroom*

SCIENTIFIC PROGRAM

Local Program Sponsored by Wayne State University School of Medicine

Thursday, March 17, 2011 | 8:00am – 10:00am

Moderator: Scott A. Gruber, MD, PhD, MBA

NOTE: *The Local Program will be held at the Marriott at Renaissance Center*

Larry Stephenson, MD, Professor of Surgery: “Some Reflections on Detroit Surgeons During the Past 300 Years”

Larry Diebel, MD, Professor of Surgery: “The Intestinal Barrier Under Stress: A Toll-Story”

Alfred Baylor, MD, Assistant Professor of Surgery: “The Pulmonary Percussion Diagnostic Device: A New Look at an Old Problem”

Michael D. Klein, MD, Professor of Surgery: “Raman Spectroscopy for Surgical Diagnosis”

Scott A. Gruber, MD, PhD, MBA, Professor of Surgery: “Raman Spectrographic Detection of Acute Renal Allograft Rejection”

David Edelman, MD, Assistant Professor of Surgery: “Modern Education Theory Applied to Surgical Simulation”

Case Presentations

Co-Moderators: David Mahvi, MD; Ronald J. Weigel, MD

Trauma Case Presentation

Thursday, March 17, 2011 | 10:15am – 10:45am

Moderator: John Weigelt, MD, Medical College of Wisconsin

Panelists: James Tyburski, MD, Wayne State University; Glen Franklin, MD, University of Louisville, Steven Steinberg, MD, The Ohio State University

Upper GI Case Presentation

Thursday, March 17, 2011 | 10:45am – 11:15am

Moderator: E. Christopher Ellison, MD, The Ohio State University

Panelists: Jon Gould, MD, University of Wisconsin; Roger Keith, University of Saskatchewan, Donald Weaver, Wayne State University

Vascular Case Presentation

Thursday, March 17, 2011 | 11:15am – 11:45am

Moderator: Mark K. Eskandari, MD, Northwestern University - Feinberg

Panelists: Daniel J. Reddy, MD, Wayne State University School of Medicine, Peter K. Henke, MD, University of Michigan Health Systems, Melina R. Kibbe, MD, Northwestern University Feinberg School of Medicine

Breast Case Presentation

Thursday, March 17, 2011 | 11:45am – 12:15pm

Moderator: Nora Hansen, MD, Northwestern University - Feinberg School of Medicine

Panelists: Lisa Newman, MD, University of Michigan; Elizabeth Shaughnessy, MD, University of Cincinnati, Carol Scott-Conner, MD, University of Iowa Hospitals & Clinics

Scientific Sessions I & II

Thursday, March 17, 2011 | 1:15pm – 5:15pm

Moderator: Michael S. Nussbaum, MD

1. RECONSTRUCTION AFTER MAJOR CHEST WALL RESECTION: EXCELLENT RESPIRATORY OUTCOMES OF AUTOLOGOUS TISSUE RECONSTRUCTION WITHOUT RIGID FIXATION

WC Hanna, KM McKendy, LE Ferri, C Sirois, DS Mulder*
McGill University Health Centre

2. LAPAROSCOPIC ANTIREFLUX SURGERY PREVENTS ASPIRATION OF PEPSIN AFTER LUNG TRANSPLANTATION

CS Davis, PW Lundberg, L Ramirez, J Gagermeier, EJ Kovacs, PM Fisichella*
Loyola University Medical Center

3. DOES THE INTERVAL FROM IMAGING TO OPERATION AFFECT THE RATE OF OCCULT METASTASES ENCOUNTERED DURING OPERATION FOR PANCREATIC ADENOCARCINOMA?

JA Glant, JA Waters, MG House, NJ Zyromski*, AJ Nakeeb*, HA Pitt*, KD Lillemoe*, CM Schmidt*
Indiana University Department of Surgery

4. A COMPARISON OF FUTURE RECRUITMENT NEEDS IN URBAN AND RURAL HOSPITALS: THE RURAL IMPERATIVE

TE Williams*, B Satiani*, EC Ellison*
The Ohio State University

5. ALBUMIN IS A BETTER PREDICTOR OF OUTCOMES THAN BODY MASS INDEX FOLLOWING CORONARY ARTERY BYPASS GRAFTING

CM Bhamidipati, DJ LaPar, GS Mehta, JA Kern, GR Upchurch*, IL Kron, G Ailawadi
University of Virginia School of Medicine

SCIENTIFIC PROGRAM *(continued)*

6. IMPROVING BREAST CANCER CARE THROUGH A REGIONAL QUALITY COLLABORATIVE

TM Breslin*, J Caughran, J Pettinga, C Wessen, A Mehringer, M Yin, D Share, S Silver

University of Michigan

7. IS PREOPERATIVE RESPONSE TO STEROID THERAPY PREDICTIVE OF RESPONSE TO SPLENECTOMY IN CHILDREN WITH IMMUNE THROMBOCYTOPENIC PURPURA?

L Hollander, C Leys, B Weil, F Rescorla*

Indiana University Department of Surgery

8. TUMOR VOLUME AND PERCENT POSITIVE LYMPH NODES AS A PREDICTOR OF 5 YEAR SURVIVAL IN COLORECTAL CANCER

LS Poritz*, R Sehgal, K Hartnett, A Berg, WA Koltun*

The Milton S. Hershey Medical Center

9. LOWER EXTREMITY VASCULAR INJURIES: INCREASED MORTALITY FOR MINORITIES AND THE UNINSURED

M Crandall*, A Haider, T Esposito*, K Brasel*

Northwestern University

Scientific Sessions III & IV

Friday, March 18, 2011 | 8:00am – 11:15am

Moderator: S. Michael Nussbaum, MD

10. PNEUMONIA IN THE ICU, IS EVERY ONE PREVENTABLE?

WL Wahl*, C Zalewski, MR Hemmila*

University of Michigan

11. USE OF ANTIBIOTICS ALONE FOR TREATMENT OF UNCOMPLICATED ACUTE APPENDICITIS – A META ANALYSIS

KJM Liu*, L Fogg, TJ Johnson

Rush University Medical Center

SCIENTIFIC PROGRAM *(continued)*

12. COMPARATIVE EFFECTIVENESS OF BARIATRIC SURGERY AND NON-SURGICAL THERAPY IN ADULTS WITH TYPE 2 DIABETES MELLITUS (T2DM) AND CLASS I OBESITY

FJ Serrot, D Leslie, RB Dorman, J Anderson, B Sick, B Slusarek, H Buchwald*, S Ikramuddin*
University of Minnesota

13. DONATION AFTER CARDIAC DEATH: A TWENTY-NINE YEAR EXPERIENCE IN KIDNEY, LIVER, PANCREAS AND LUNG TRANSPLANTATION

AM D'Alessandro*, JM Bellingham, NA Neidlinger, LA Fernandez, DP Foley, JD Mezrich, JS Odorico, NC De Oliveira, RB Love, HW Sollinger*
University of Wisconsin

14. RISK STRATIFICATION FOR THE DEVELOPMENT OF A SUBSEQUENT PNEUMONIA AFTER A NON-DIAGNOSTIC BRONCHO-ALVEOLAR LAVAGE

I Qureshi, Y McCarter, A Kerwin, J Tepas, (M Nussbaum)
University of Florida at Jacksonville

15. THE ADDITION OF A NURSE PRACTITIONER TO AN INPATIENT SURGICAL TEAM RESULTS IN IMPROVED UTILIZATION OF RESOURCES

L Robles, E Ladwig-Scott, D Zank, MK Larson, M Slogoff*, G Aranha*, M Shoup*
Loyola University Medical Center

16. IN-HOUSE DIRECT SUPERVISION BY AN ATTENDING IS ASSOCIATED WITH DIFFERENCES IN THE CARE OF PATIENTS WITH BLUNT LUNG SPLENIC

JA Claridge*, JW Carter, WH Leukhard, MA Malangoni*
MetroHealth Medical Center

SCIENTIFIC PROGRAM *(continued)*

CSA Foundation Awards

Friday, March 18, 2011 | 11:15am – 11:30am

Address of the President

Friday, March 18, 2011 | 11:30am – 12:15pm

The Gavel Box, Michael S. Nussbaum, MD

Scientific Session V-A

Friday, March 18, 2011 | 1:15pm – 3:30pm

Moderator: C. Max Schmidt, MD

17A. RISING HOSPITAL COSTS FOR CLOSTRIDIUM DIFFICILE COLITIS: HOSPITAL TYPE MATTERS.

DB Stewart, L Wang, (WA Koltun)

Penn State Hershey Medical Center

18A. H2 BLOCKERS DECREASED GUT MUCUS PRODUCTION AND LEAD TO BARRIER DYSFUNCTION INVITRO

LN Diebel*, DM Liberati

Wayne State University

19A. CITRULLINE: A POTENTIAL IMMUNOMODULATOR IN SEPSIS

T Asgeirsson, S Zhang, C Mascarenhas, R Nunoo, A Senagore*

Spectrum Health, Grand Rapids, MI

University of Southern California, Los Angeles, CA

20A. GENERAL SURGERY TRAINING WITHOUT ADVANCED LAPAROSCOPIC FELLOWS: THE IMPACT ON RESIDENTS AND PATIENTS

JG Linn, E Hungness*, S Clark, A Nagle, E Wang, NJ Soper*

Northwestern University, Feinberg School of Medicine

SCIENTIFIC PROGRAM *(continued)*

21A. EVALUATING RESIDENT OPERATIVE PERFORMANCE: A QUALITATIVE ANALYSIS OF EXPERT OPINIONS.

HA Sanfey, RG Williams, P Chen, GL Dunnington
Southern Illinois University School of Medicine

22A. TEAM TRAINING CAN IMPROVE OPERATING ROOM PERFORMANCE

RA Forse, R McQuillan
Creighton University

Scientific Session V-B

Friday, March 18, 2011 | 1:15pm – 3:30pm
Moderator: Tina Yen, MD

23B. MORBIDITY AND MORTALITY AFTER BOWEL RESECTION FOR ACUTE MESENTERIC ISCHEMIA

PK Gupta, B Natarajan, HGupta, X Fang, RJ Fitzgibbons Jr.*
Creighton University

24B. LATE ABDOMINAL AORTIC ENDOGRAFT EXPLANTS: INDICATIONS AND OUTCOMES

SV Phade, ML Keldahl, MD Morasch*, HE Rodriguez, WH Pearce*, MR Kibbe*, and MK Eskandari*
Northwestern University Feinberg School of Medicine

25B. PRIMARY TUMOR SIZE, NOT RACE, DETERMINES OUTCOMES IN WOMEN WITH HORMONE-RESPONSIVE BREAST CANCER

AB Chagpar, CR Crutcher, LB Cornwell, KM McMasters
Yale University and University of Louisville

26B. SAMPLING OF SECONDARY MARGINS REDUCES NEED FOR RE-EXCISION AFTER PARTIAL MASTECTOMY

JA Guidroz; G Larrieux; J Liao; S L Sugg*; CEH Scott-Conner*; R J Weigel*
University of Iowa Hospitals and Clinics

SCIENTIFIC PROGRAM *(continued)*

27B. A RETROSPECTIVE REVIEW OF THE USE OF INTRAOPERATIVE CHOLANGIOGRAM IN THE DIAGNOSIS AND TREATMENT OF CHOLEDOCHOLITHIASIS

LE Tabone, S Sarker*, PM Fisichella*, M Conlon, E Fernando, S Yi, FA Luchette*

Loyola University Medical Center

28B. SINGLE-INCISION LAPAROSCOPIC COLECTOMY FOR CANCER: ASSESSMENT OF ONCOLOGIC RESECTION IN A CASE-MATCHED COMPARISON TO STANDARD LAPAROSCOPIC TECHNIQUES

HT Papaconstantinou, JS Thomas, (TC Lairmore)

Scott & White Memorial Hospital

Debate: Single Incision Laparoscopy

Friday, March 18, 2011 4:00pm – 5:15pm

Moderator: David Mahvi, MD

Presenters: L. Michael Brunt, MD – Washington University School of Medicine; Jeffrey Hazey, MD; The Ohio State University

CSA Annual Business Meeting

Friday, March 18, 2011 | 5:15pm – 5:45pm

Scientific Sessions VI & VII

Saturday, March 19, 2011 | 8:00am – 11:15am

Moderator: Gerald Fried, MD

29. OPTIMIZING THE MANAGEMENT OF CUTANEOUS MELANOMA IN THE ELDERLY

C Tragos, TJ Hieken*

Rush Medical College and NorthShore University HealthSystem

30. ASSESSMENT OF PLATELET TRANSFUSION FOR REVERSAL OF PLATELET INHIBITORS FOLLOWING TRAUMATIC BRAIN INJURY

JT Bautz, JL Sperry, AM Bachelani, AC Corcos, TR Billiar*, AB Peitzman*, GT Marshall

University of Pittsburgh Medical Center

31. ADVERSE OUTCOMES OF PREOPERATIVE ENDOSCOPIC ULTRASOUND (EUS) AND BIOPSY IN PATIENTS UNDERGOING DISTAL PANCREATECTOMY

MG House, JD Beane, JM DeWitt, M Al-Haddad, GA Cote, JL LeBlanc, S Sherman, CM Schmidt*, NJ Zyromski*, A Nakeeb*, TJ Howard*, HA Pitt*, KD Lillemoe*

Indiana University School of Medicine

32. CHANGES IN SERUM PROTEIN LEVELS IN ULCERATIVE COLITIS PATIENTS FOLLOWING PROCTOCOLECTOMY

R. Sehgal, JP Hegarty, AA Kelly, DM Pastor, LS Poritz*, Z Lin, K Vrana WA Koltun*

Penn State Hershey Medical Center

33. THE NEGATIVE IMPACT OF OBESITY ON SUBCUTANEOUS ADIPOSE TISSUE MITOCHONDRIAL BIOGENESIS IS IMPROVED WITHIN DAYS AFTER ROUX-EN-Y GASTRIC BYPASS

FJ Serrot, B Frohnert, R Foncea, RB Dorman, D Leslie, B Slusarek, DA Bernlohr, S Ikramuddin*

University of Minnesota

SCIENTIFIC PROGRAM *(continued)*

34. IMPACT OF WITHDRAWAL OF CARE ON TRAUMA MORTALITY

GA Franklin, RM Cannon, JW Smith, BG Harbrecht, JD Richardson*
University of Louisville

35. IMPACT OF PREINJURY WARFARIN AND ANTIPLATELET AGENTS ON OUTCOMES OF TRAUMA PATIENTS

C Jahraus, L Salem, T Arnold, A Ata, C Rosati, DJ Bonville
Albany Medical College

36. PRIMARY HYPERPARATHYROIDISM WITH A HISTORY OF HEAD AND NECK IRRADIATION: THE CONSEQUENCES OF ASSOCIATED THYROID TUMORS

SD Wilson*, EA Krzywda, KM Doffek, TS Wang*, DB Evans*, TW Yen*
Medical College of Wisconsin

ABSTRACTS

I. RECONSTRUCTION AFTER MAJOR CHEST WALL RESECTION: EXCELLENT RESPIRATORY OUTCOMES OF AUTOLOGOUS TISSUE RECONSTRUCTION WITHOUT RIGID FIXATION

WC Hanna, KM McKendy, LE Ferri, C Sirois, DS Mulder*
McGill University, Montreal, QC

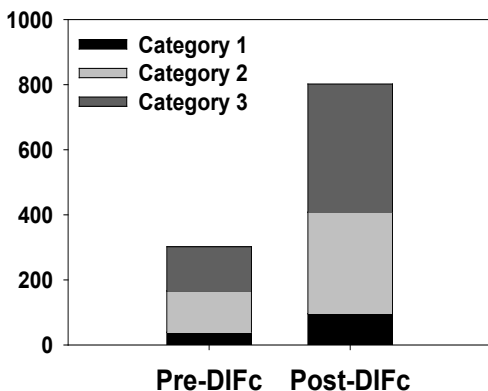
Introduction: Resection of chest wall tumors frequently requires complex reconstruction with either autologous or prosthetic tissue. Chest wall stability is important in preventing respiratory complications, and rigid fixation with methacrylate or metallic prostheses (plate and screws) has traditionally been advocated as the best method to achieve this effect. However, these approaches are frequently complicated by infection, pain, and rigid deformities. The following study highlights the positive outcomes of our experience with autologous tissue and soft prosthesis reconstruction of the chest wall without rigid fixation.

Methods: After ethics board approval, all patients who underwent major resection of primary or secondary chest wall tumors (non-lung cancer) in a tertiary care institution between 2005-10 were identified from a prospectively entered database. Cases were stratified into two separate groups; those who underwent reconstruction with autologous tissue alone (Autologous) and those who underwent reconstruction with a prosthetic mesh (Prosthesis). No patients underwent rigid fixation with methacrylate or plates and screws. Fisher's exact test was used to determine statistical significance ($p < 0.05$).

Results: Thirty-seven patients were identified over a five-year period: 21 in the Autologous group and 16 in the Prosthesis group. Half of patients (50%) were men and the mean age across the both groups was 51 years old. Sarcoma was the most common indication for resection (42%) followed by neurofibromas (38%), desmoids tumors (15%) and metastases to the chest wall (8%). In the Autologous group, 31% of patients received neo-adjuvant chemotherapy and/or radiation treatment, versus only 9% in the Prosthesis group ($p = 0.01$). The mean size of the defect created in the chest wall was 165 cm² in the Prosthesis group and 87 cm² in the Autologous group ($p < 0.05$). Of the patients in the Prosthesis group, 66% required a construction of a muscle flap to cover the prosthesis. The rate of immediate post-

ABSTRACTS *(continued)*

operative extubation was 100% (21/21) in the Prosthesis group and 91%(15/16) in the Autologous group (p=NS). However, no patient in the Autologous group required ventilation for more than 24 hours post-operatively. One patient in the Autologous group developed a post-operative pneumonia (4.8%) versus no patients in the Prosthesis group (p=NS).The rate of prosthesis infection requiring mesh removal in the Prosthesis group was 12.5%.There were no mortalities in the



post-operative period.

Conclusion: The respiratory outcomes of chest wall resection and reconstruction without rigid fixation are excellent and no different between autologous reconstruction alone or reconstruction with a prosthetic mesh. Use of prosthetic mesh should be reserved for large defects and otherwise avoided because of significant risk of infection and reoperation.

NOTES

ABSTRACTS *(continued)*

NOTES

2. LAPAROSCOPIC ANTIREFLUX SURGERY PREVENTS ASPIRATION OF PEPSIN AFTER LUNG TRANSPLANTATION

CS Davis, PW Lundberg, L Ramirez, J Gagermeier, EJ Kovacs, PM Fisichella*

Loyola University Medical Center, Stritch School of Medicine,
Department of Surgery, Maywood, IL

Purpose: To determine, in lung transplant patients, if laparoscopic antireflux surgery (LARS) is an effective means to prevent aspiration as defined by the presence of pepsin in the bronchoalveolar lavage (BAL).

Methods: Between September 2009 and June 2010, we collected BAL fluid from 37 lung transplant patients at the time of routine surveillance for rejection, or when clinically indicated by diminished pulmonary function (sustained drop of FEV1 > 10% of baseline for 1 week). The BAL fluid was tested for pepsin by enzyme-linked immunosorbent assay (ELISA). Pepsin was also tested by ELISA in the BAL fluid of 11 healthy volunteers (control group). Of the 37 lung transplant patients, 25 underwent ambulatory pH-monitoring and 12 underwent LARS for gastroesophageal reflux disease (GERD). We then compared the pepsin levels in the BAL of those with GERD (n=15), those without GERD (n=10), controls (n=11), and those who underwent LARS (n=12).

Results: Our results show that lung transplant patients with GERD had significantly more pepsin in their BAL fluid than lung transplant patients who underwent LARS ($p=0.038$), and that pepsin was undetectable in the BAL fluid of controls (Figure 1).

Conclusion: To our knowledge this is the only that has compared pepsin in the BAL fluid from lung transplant patients with and without LARS. Our data show that: 1) the detection of pepsin in the BAL fluid proves aspiration, as it is not present in healthy volunteers, and 2) that LARS appears effective as a measure to prevent the aspiration of gastroesophageal refluxate in the lung transplant population. We believe that these findings provide a mechanism for those studies that suggest that LARS may prevent nonallogenic injury to the transplanted lungs from aspiration of gastroesophageal refluxate.

ABSTRACTS *(continued)*

NOTES

3. DOES THE INTERVAL FROM IMAGING TO OPERATION AFFECT THE RATE OF OCCULT METASTASES ENCOUNTERED DURING OPERATION FOR PANCREATIC ADENOCARCINOMA?

JA Glant, JA Waters, MG House, NJ Zyromski*, AJ Nakeeb*, HA Pitt*, KD Lillemoe*, CM Schmidt*

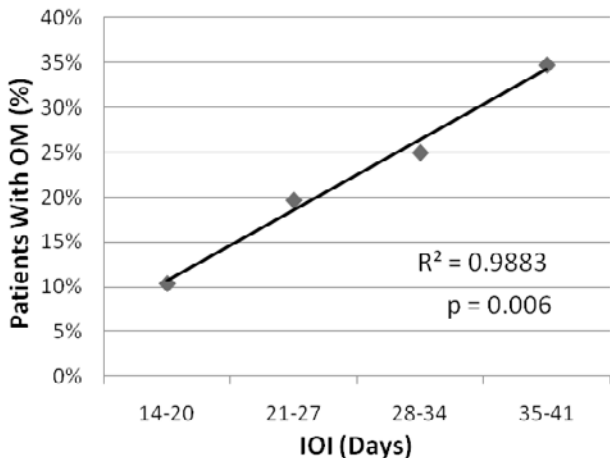
Indiana University Department of Surgery, Indianapolis, IN

PURPOSE: Pancreatic ductal adenocarcinoma (PDAC) is an aggressive malignancy with a propensity for early metastasis. It is not uncommon to encounter occult metastatic disease at the time of operative exploration. Our objective was to examine the effect of the time interval between preoperative imaging and attempted resection on rates of unanticipated metastatic disease encountered at operation. We hypothesize that imaging obtained less than four weeks prior to operation will result in lower rates of occult metastases (OM) encountered at operation.

METHODS: Between January 2004 and December 2009, patients undergoing planned pancreatic resection for PDAC at a high volume pancreatic surgery center were compiled. Exclusion criteria were neoadjuvant therapy, prior pancreatic resection, or exploratory surgery with suspicion for metastatic disease. Review and analysis of clinical, radiographic, operative, and pathologic data was undertaken. Frequency of OM and outcome of resection was compared with the interval between most recent cross-sectional imaging (dual-phase contrast-enhanced CT or MRI if contraindication to CT) and operation (IOI).

RESULTS: 487 patients met eligibility requirements for the study: 430 (88%) proximal and 57 (12%) distal PDAC. 202 (41%) patients had their most recent imaging performed at an outside institution, and no difference in the rates of OM was observed whether imaging was conducted at our institution or at an outside institution ($p > 0.05$). Of 329 with complete imaging information for analysis, OM were discovered in 60 (18%): 52 (18%) of 293 proximal PDAC and 8 (22%) of 36 distal PDAC. In proximal PDAC patients (see figure), there was a linear relationship in the frequency of OM as a function of the weekly IOI ($R^2 = 0.99; p = 0.006$). Furthermore, compared to an IOI of < 3 weeks, an IOI of > 3 weeks was associated with a greater than twofold

ABSTRACTS *(continued)*



IOI (Days)	N	No OM	OM	OM (%)
14-20	48	43	5	10.4
21-27	66	53	13	19.7
28-34	28	21	7	25.0
35-41	23	15	8	34.8
	165	132	33	

NOTES

ABSTRACTS *(continued)*

NOTES

4. A COMPARISON OF FUTURE RECRUITMENT NEEDS IN URBAN AND RURAL HOSPITALS: THE RURAL IMPERATIVE

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Purpose: The potential impact of shortages of the surgical workforce on both urban and rural hospitals is undefined. There is a predicted a shortage of 30,000 surgeons by 2030 and the need to train and hire more than 100,000 surgeons. The aim of this study is to estimate the average recruitment needs in our nation's hospitals for seven surgical specialties (see table) to ensure adequate access to surgical care as the U.S. population grows to 364 million by 2030.

Methods: We used the census figure of 309 million in 2010 for U.S. population. Currently there are estimated to be 3,012 urban hospitals and 1,998 rural hospitals in the U.S. (American Hospital Association's Trend Watch report, 2009). At present 253 million people (82 % of the population of 309 million in 2010) receive healthcare in urban hospitals; 56 million people receive healthcare in rural hospitals (18%). We assumed a work force model based on previous publications, equal population growth in all geographic areas, recruitment by rural hospitals limited to OB-GYN, General Surgery, and Orthopedics, and that the percentage of the population receiving care at urban and rural hospitals will stay constant.

To obtain the URBAN AND RURAL HOSPITALS RECRUITMENT GOALS 2011 TO 2030, Column 3, we multiply Column 2 by .82 for the urban hospitals and by .18 for the rural hospitals. To calculate TOTAL HIRES PER YEAR 2011 TO 2030 in Column 4 we divide Column 3 by 20 years. To obtain the TOTAL HIRES PER HOSPITAL, Column 5, we divide Column 3 by 3,012 for the urban hospitals and 1,998 for the rural hospitals.

Results: See Table.

Conclusions: The average urban hospital must hire and retain almost thirty surgeons in the next 20 years to achieve the desired goal; the rural hospitals must hire and retain seven. Rural hospitals will be in competition with urban hospitals for hiring from a limited pool of

ABSTRACTS *(continued)*

surgeons. As urban hospitals have a socioeconomic advantage in hiring, surgical care in rural areas may be at risk. It is imperative that each rural hospital analyze local future healthcare needs and devise strategies that will enhance hiring and retention to optimize access to surgical care.

SPECIALTY OR LOCATION	TOTAL NEEDED TO BE TRAINED AND HIRED 2011 TO 2030	URBAN AND RURAL HOSPITALS RECRUITMENT GOALS 2011 TO 2030	TOTAL HIRES PER YEAR 2011 TO 2030	HIRES PER HOSPITAL
URBAN				
OB-GYN	37,636	30,862	1,543	10.2
ORTHO	17,355	14,231	712	4.7
GENERAL	22,525	18,471	924	6.1
ENT	8,516	6,983	349	4.7
UROLOGY	9,084	7,449	372	2.5
NEURO	2,728	2,237	112	0.7
THORACIC	3,994	3,275	164	1.1
URBAN TOTALS		83,507	4,175	27.7
RURAL				
OB-GYN	37,636	6,774	339	3.4
ORTHO	17,355	3,124	156	1.6
GENERAL	22,525	4,055	203	2.0
RURAL TOTALS		13,953	698	7.0

NOTES

5. ALBUMIN IS A BETTER PREDICTOR OF OUTCOMES THAN BODY MASS INDEX FOLLOWING CORONARY ARTERY BYPASS GRAFTING

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OBJECTIVE:

Body Mass Index (BMI) is used to risk stratify outcomes after coronary artery bypass grafting (CABG). Albumin is a well known mortality indicator, and is not routinely collected by the Society of Thoracic Surgeons (STS) database. We postulate that preoperative serum albumin might be a relevant predictor of outcomes and mortality following CABG.

METHODS:

BMI from patients with serum albumin level obtained within 6 months of isolated CABG at our center between 1995-2010 were identified by our institutional and STS databases. Patients were stratified using National Heart, Lung, and Blood Institute standards (Underweight, Normal, Overweight, Obese, Extremely Obese) and by Preoperative serum albumin levels (≤ 2 , 2-3, 3-4 or ≥ 4 g/dl). Preoperative risk, operative factors, and outcomes were analyzed.

RESULTS:

From 6,010 isolated CABG patients, 2,794 were analyzed, and overall mortality was 3% (84/2794). Unadjusted mortality was highest in the normal BMI group ($P < 0.05$), and when albumin levels were 2-3g/dl ($P = 0.02$). Albumin and BMI were not linearly associated, and although ejection fraction (EF) and intra-aortic balloon pump (IABP) use were similar across BMI groups, EF was lowest and IABP use highest when albumin was 2-3g/dl ($P < 0.001$, respectively). Intensive care stay was similar across BMI groups, but was longest when albumin was ≤ 2 g/dl ($P = 0.02$). Moreover, risk adjusted prolonged ventilation was not influenced by any BMI group, while increasing serum albumin was protective ($P = 0.001$). Importantly, adjusted mortality was not influenced by BMI (adjusted odds ratio [AOR] 0.97, 95% confidence interval [CI] 0.93-1.02), and reduced with increasing levels of albumin (AOR 0.61,

ABSTRACTS *(continued)*

95% CI 0.42-0.90).

CONCLUSIONS:

Serum albumin influences mortality and morbidity in patients undergoing isolated CABG. Albumin may be a better outcomes indicator than BMI, and patients scheduled for coronary surgery should undergo preoperative serum albumin evaluation.

NOTES

6. IMPROVING BREAST CANCER CARE THROUGH A REGIONAL QUALITY COLLABORATIVE

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PURPOSE: Regional collaborative organizations provide an effective structure for improving the quality of surgical care. With low complication rates and a long latency between surgical care and outcomes such as survival and local recurrence, quality measurement in breast cancer surgery is ideally suited to process measures. Core needle versus surgical biopsy rates for breast cancer diagnosis are measurable and amenable to change at the provider level. We present initial results from our analysis of institutional variation in diagnostic breast biopsy technique within a regional breast cancer quality collaborative.

METHODS: Established in 2006, the Michigan Breast Oncology Quality Initiative (MiBOQI) consists of 14 hospitals collecting data on breast cancer care using the National Comprehensive Cancer Centers Network (NCCN) Oncology Outcomes Database Project platform to analyze and compare breast cancer practices and outcomes amongst member institutions. Institutional Review Board approval is obtained at each site. Data are submitted electronically to the NCCN and analyzed for concordance with practice guidelines. Aggregate and blinded data are shared with project directors and institutions at collaborative meetings, and ongoing practice patterns are observed for change. We analyzed variation in breast biopsy technique for initial cancer diagnosis over time and between institutions. Diagnostic biopsies were categorized as core needle, surgical excisional, surgical incisional, and other surgical biopsy.

RESULTS: Procedural data for 8093 patients treated for breast cancer from November 2006 through 2009 were analyzed. The mean patient age was 59.5 years (range 25.4-90.0). Within MiBOQI, 21% of patients underwent surgical biopsy for initial diagnosis. The percentage of patients undergoing surgical biopsy ranged from 7-38%, and the majority of surgical biopsies were classified as excisional biopsies. Patients with

ABSTRACTS *(continued)*

DCIS were more likely to undergo surgical biopsy compared to those with invasive cancer (30.4% vs. 17.8%) $p < .001$. There was no association between biopsy type and patient age, race, or comorbidity. Data on biopsy technique were shared with site project directors and a target surgical biopsy rate of $< 15\%$ was chosen by consensus. Site project directors disseminated the data to their institutions and developed action plans for provider and patient education. During the study period, the percentage of cases undergoing surgical biopsy for the MiBOQI collaborative decreased from 23.1% to 19.4% ($p < .001$).

CONCLUSION: The regional quality collaborative model can be used to collect, analyze and disseminate quality of surgical breast care data to organizations and treating physicians. These data can be used to describe patterns of care and make comparisons over time and between organizations. Furthermore, these data can be used to set regional quality standards and provide an avenue for physician led quality improvement.

Cancer type	AA (n = 582)	CORR (n = 11,155)	p value
All	10.14% (n = 59)	6.97% (n = 778)	0.004
Prostate	2.41%	0.33%	< 0.0001
Renal Cell	1.89%	0.64%	0.0004
PTLD ^a	1.20%	1.12%	NS
Lung	1.20%	0.97%	NS
Colorectal	0.52%	0.46%	NS
Pancreas	0.52%	0.06%	0.01
Larynx	0.34%	0.07%	NS
Breast	0.34%	0.47%	NS
Esophagus	0.34%	0.04%	0.04
Cervix	0.17%	0.05%	NS
Oral	0.00%	0.73%	0.02
Melanoma	0.00%	0.18%	NS
Bladder	0.00%	0.21%	NS

ABSTRACTS *(continued)*

NOTES

7. IS PREOPERATIVE RESPONSE TO STEROID THERAPY PREDICTIVE OF RESPONSE TO SPLENECTOMY IN CHILDREN WITH IMMUNE THROMBOCYTOPENIC PURPURA?

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Purpose: Previous studies have suggested that a favorable response to pre-operative steroid therapy predicts a successful outcome after splenectomy in children with immune thrombocytopenic purpura (ITP). However, the results of some more recent studies have found no correlation, or even a negative correlation, between response to steroids and response to splenectomy. The purpose of this study is to further examine the relationship between steroid response and outcome after splenectomy in children.

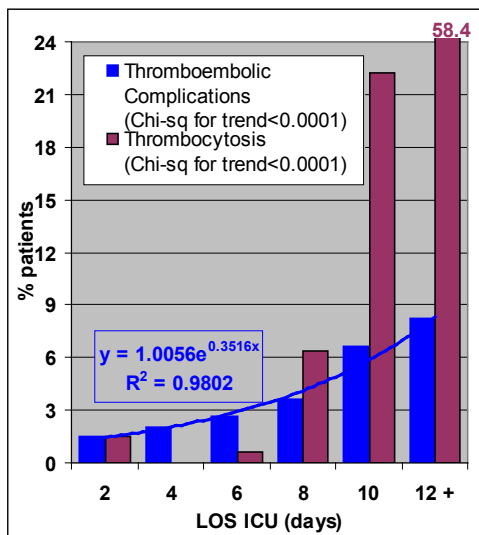
Methods: After IRB approval, children who underwent splenectomy for ITP were identified and records reviewed retrospectively. Patient response to medical and surgical therapies were determined by platelet counts. Patients were grouped by complete response (CR, $\geq 150,000/\mu\text{L}$), partial response (PR, 149,999 to $\geq 50,000$), or no response (NR, $<50,000$).

Results: Thirty-seven children, age 10 ± 5 years, were identified. Following steroid therapy, 20 patients (54%) had CR, 9 patients (24%) had PR, and 8 patients (22%) had a NR. After splenectomy, 31 patients (84%) had CR and 6 patients (16%) had PR. No children in the group had NR to splenectomy. Of the 20 patients that had a CR to steroid therapy, 18 (80%) had CR and 2 (20%) had PR to splenectomy. Out of the 9 patients that had a PR to steroids, 7 (78%) had CR to splenectomy and 2 (22%) had PR. Of the 8 patients that had a NR to steroids, 6 (75%) had CR and 2 (25%) had PR to splenectomy. Statistical analysis with Fisher's Exact test found no significant correlation between any of the three categories of response to steroid therapy when compared against response to splenectomy ($P = 0.59$). Additionally, the group with CR to splenectomy was compared against the group with PR to splenectomy, and no statistically significant differences were found between the groups for the following variables: age at diagnosis, age at splenectomy, sex, race, co-morbidities, platelet count at diagnosis,

ABSTRACTS *(continued)*

platelet count at time of operation, time between diagnosis and splenectomy, postoperative relapse, and response to preoperative intravenous immunoglobulin (IVIG), intravenous anti-Rho(D) immune globulin (WinRho), or rituximab.

Conclusion: These data suggest that response to preoperative steroids is not predictive of outcome to splenectomy in children with ITP. These results challenge the longstanding belief that a good response to steroids predicts a favorable response to splenectomy. Additionally,



our results also challenge the more recent studies suggesting that a poor response to steroids predicts a good response to splenectomy.

TABLE 1:

		Response to Steroids		
		CR	PR	NR
Response to Splenectomy	CR	18 (80%)	7 (78%)	6 (75%)
	PR	2 (20%)	2 (22%)	2 (25%)

ABSTRACTS *(continued)*

NOTES

8. TUMOR VOLUME AND PERCENT POSITIVE LYMPH NODES AS A PREDICTOR OF 5 YEAR SURVIVAL IN COLORECTAL CANCER

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PURPOSE: Patients with stage III colorectal cancer (CRC) are treated with adjuvant therapy, but survival is variable at 5 years. Identifying patients with a worse potential outcome could help direct adjuvant therapy so that those patients are treated more aggressively. Tumor size is not part of the staging system for CRC and alone is not a predictor of survival. We hypothesize that Stage III patients with small tumors have a worse survival than patients with large tumors.

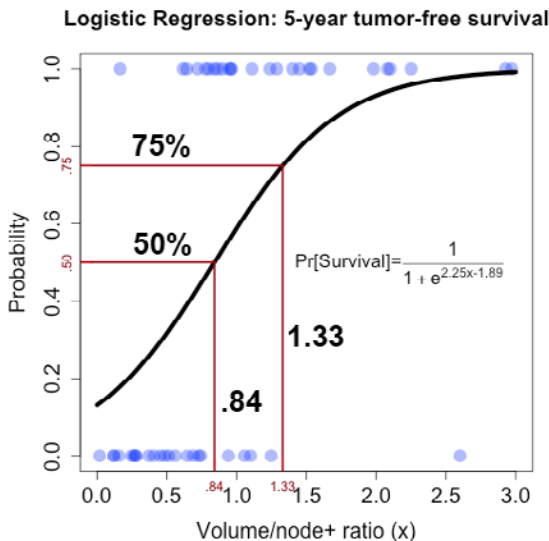
METHODS: Patients with Stage III CRC were identified from our registry. Patients with IBD associated CRC, those treated with neoadjuvant therapy, and those with perforated CRC were excluded. The remaining patients were divided into 2 categories, those who died of CRC or have metastatic disease within 5 years of surgery and those that were alive and disease free at 5 years. Patients dying from non-CRC causes before 5 years and patients where cause of death was unknown were excluded. Tumor volume and lymph nodes status was obtained from the pathology report. A ratio of tumor volume to percent positive nodes was calculated for each patient (V:N ratio). Groups were compared with t-test. Logistic regression was performed to model the probability of survival after 5 years.

RESULTS: 52 patients were identified that met all the criteria. 29 (56%) were alive and tumor free at 5 years. The V:N ratio was statistically significantly higher in patients that survived and were disease free 5 years after surgery for CRC (1.79 ± 0.3) than in those patients who died from CRC within 5 years (0.61 ± 0.11), $p=0.0018$. Using logistic regression, the V:N ratio was a significant parameter in survival to 5 years, with the coefficient being significant at $p=0.003$ (see figure). Using this formula the 50% survival point was a V:N ratio of .84 and the 75% survival point was a V:N ratio of 1.33.

CONCLUSIONS: 1: Patients who survive 5 years after CRC surgery have a statistically significantly higher V:N ratio than those patients who

ABSTRACTS *(continued)*

die of disease within 5 years. 2: Patients with small tumors and positive nodes have a lower V:N ratio and a statistically decreased 5 year survival. These patients should be targeted for more aggressive adjuvant therapy.



NOTES

9. LOWER EXTREMITY VASCULAR INJURIES: INCREASED MORTALITY FOR MINORITIES AND THE UNINSURED

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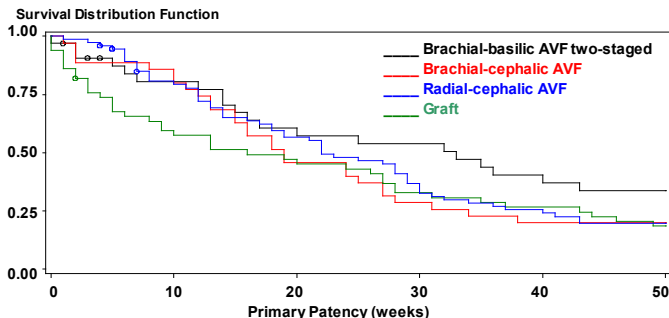
Introduction: There is increasing evidence to suggest that racial disparities exist in outcomes for trauma. Minorities and the uninsured have been found to have higher mortality rates for blunt and penetrating trauma, and worse outcomes after head injuries. The exact mechanisms for these disparities, however, are incompletely understood. We hypothesized that by reducing injury heterogeneity and limiting outcomes analyses to lower extremity vascular injuries (LEVI) only, these disparities would disappear.

Methods: The National Trauma Data Bank (NTDB v.7.0, American College of Surgeons) was used for this study. Univariate and multivariate analyses were performed using STATA 10. Outcome of interest was mortality and analyses controlled for age > 55, gender, race, payer status, injury severity score (ISS) > 16, and initial systolic blood pressure (SBP) < 60.

Results: Of the nearly 5.5 million cases included in the NTDB, 6584 LEVI were identified by ICD-9 codes 904.0-904.8; 3022 blunt, 3500 penetrating, and 4 burns. Penetrating injuries were much more likely to be suffered by minorities (78% vs. 28% for blunt, $p < 0.001$) and the uninsured (31% vs 12% for blunt, $p < 0.001$). They were also younger (mean age 28 vs. 37, $p < 0.001$). Overall mortality was 8% (7.9% for blunt, 8.1% for penetrating). 10% of each group were in shock, with SBP < 60 on presentation. Mean ISS was higher for blunt injuries. Logistic regression including mechanism as an independent variable demonstrated increased mortality for minorities (OR 1.47, 95%CI 1.06-1.96, $p = 0.01$) and the uninsured (OR 1.67, 95%CI 1.15-2, $p = 0.003$). When stratified by mechanism, lack of insurance predicted increased mortality for penetrating trauma (OR 1.67, 95%CI 1.16-2.38, $p = 0.006$), but not for blunt (OR 1.28, 95%CI 0.81-2.04, $p = 0.29$), and race was not significant for either mechanism (penet OR 1.67, 95%CI 0.98-2.85, $p = 0.06$; blunt OR 1.39, 95%CI 0.96-2, $p = 0.08$).

ABSTRACTS *(continued)*

Conclusions: These results are disturbing in that, even for a relatively homogenous group of injured patients, those with LEVI, mortality is higher for racial minorities and the uninsured. More research is to better understand and begin to address the factors underlying these disparities.



NOTES

10. PNEUMONIA IN THE ICU, IS EVERY ONE PREVENTABLE?

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PURPOSE: Pneumonia is a major complication for hospitalized patients and recently has come under scrutiny by health care regulating bodies which propose that hospital acquired pneumonia should not be reimbursed and potentially be a "never event." We hypothesized that many of our patients develop pneumonia at the time of their initial traumatic event despite aggressive measures to prevent pneumonia during their hospitalization.

METHODS: Retrospective review of all mechanically ventilated patients admitted to a mixed surgical ICU (trauma, general surgery and burns) who developed pneumonia from 2006-2008. All pneumonia culture diagnoses were obtained from bronchoalveolar lavage (BAL) specimens, with $\geq 10^4$ cfu/ml considered a positive result. Ventilator-associated pneumonia (VAP) criteria applied only to those patients mechanically ventilated for more than 48 hours at the time of a positive BAL culture. Aspiration organisms included Strep species, MSSA, H influenzae, Oral flora. This was an IRB approved study.

RESULTS: 208 patients underwent BAL, half of which were performed in the first 48 hours after admission for fever, infiltrate on chest radiograph or rising white blood cell count (early BAL group). Of these, 58% (29% of all BAL patients) had positive BAL cultures (pneumonia) but were not VAP. While the predominant organisms in the early BAL group were aspiration type organisms, 18% had resistant pathogens and 17% had other Gram negative rods (GNR). This compared to the VAP group with 37% resistant organisms ($p=0.04$) and 11% other GNR ($p=NS$). Twenty five patients with $\leq 10^4$ cfu/ml on early BAL underwent repeat BAL of which 16 (64%) were later diagnosed with VAP.

CONCLUSIONS: Many intubated patients in the surgery ICU had evidence of early pneumonia or bacterial growth within 48 hours after arrival suggesting early infection or colonization occurred prior to ICU admission. In addition, 36% with early bacterial growth had resistant

ABSTRACTS *(continued)*

organisms or GNR on BAL culture which suggests a patient derived rather than environmentally acquired source.

Time of BAL	BAL cfu/ml		No Growth N (%)	Aspiration Organisms	Resistant GNR/ MRSA N (%)	Other GNR N (%)
	N (%)			N (%)		
<48 hours N=105	< 10 ⁴	44 (42)	10 (10)	23 (22)	5 (5)	6 (6)
	≥ 10 ⁴ =pneumonia	61 (58)	n/a	36 (34)	13 (13)	12 (11)
≥48 hours N=103	< 10 ⁴	29 (28)	7 (7)	15 (14)	4 (4)	3 (3)
	≥ 10 ⁴ =VAP	74 (72)	n/a	32 (31)	34 (33)	8 (8)

NOTES

II. USE OF ANTIBIOTICS ALONE FOR TREATMENT OF UNCOMPLICATED ACUTE APPENDICITIS – A META ANALYSIS

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Antibiotics treatment is now used successfully in many intra-abdominal septic processes, such as colonic diverticulitis, which had been treated surgically in the past. Nonetheless, the use of antibiotics alone in the treatment of acute appendicitis, especially in the absence of an appendiceal mass, phlegmon or abscess, has been controversial. The present report is based on a meta-analysis of existing studies which compared treatment with antibiotics alone to appendectomy in acute appendicitis without an appendiceal mass or abscess.

METHODS A Medline search was performed for studies on acute appendicitis comparing antibiotics treatment to appendectomy. Case reports, studies including appendiceal mass or abscess, studies before 1970, or studies using non-conventional approaches were excluded. Eight reports comprised of 1515 patients were identified, and a meta-analysis was performed.

RESULTS A normal appendix was found in $7.37 \pm 5.09\%$ of patients who underwent appendectomy as the planned treatment. When antibiotics alone were used, $6.51 \pm 4.39\%$ patient failed to respond and required surgical intervention in 24 hours to 3 weeks, and acute appendicitis recurred in $11.3 \pm 9.40\%$. The length of stay (LOS) for appendectomy and antibiotics treatment was 4.56 ± 2.78 and 4.72 ± 2.94 days respectively. The complication rate for antibiotics treatment was $3.6 \pm 6.5\%$, while that for appendectomy was $14.7 \pm 12.9\%$ including some cases of enterocutaneous fistula ($p < .001$).

CONCLUSION Uniform use of surgery in acute appendicitis without appendiceal mass or abscess resulted in the removal of a normal appendix in many cases with associated clinical and economic costs. On the other hand, a number of patients treated with antibiotics alone failed to respond and required appendectomy. Appendicitis recurred in a number of cases when the initial episode was treated with antibiotics alone, and several recurrences were successfully treated

ABSTRACTS *(continued)*

again with antibiotics. The LOS was comparable for both treatment approaches. Notably, the complication rates for appendectomy were more than four times higher than those for antibiotics treatment. Clearly, each treatment approach has its own advantages and drawbacks. However, the number of patients studied to date is limited, primarily due to widespread reluctance on the part of surgeons to employ antibiotics alone for the treatment of a traditionally surgical disease. Nonetheless, all existing studies have demonstrated that treatment with antibiotics alone is safe, and prospective randomized trials are warranted to further identify the merits and limitations of each treatment approach in this common disease process.

NOTES

12. COMPARATIVE EFFECTIVENESS OF BARIATRIC SURGERY AND NON-SURGICAL THERAPY IN ADULTS WITH TYPE 2 DIABETES MELLITUS (T2DM) AND CLASS I OBESITY

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PURPOSE: Currently the the Agency for Healthcare Research and Quality (AHRQ) is soliciting public comment on the comparative outcomes of bariatric surgery in patients with class I obesity (BMI<35kg/m2). There are no US data available. The randomized studies currently recruiting patients will likely all have a mean BMI above 35 kg/m2 given current inclusion criteria. Outcomes of surgically and medically treated groups of patients with T2DM and class I obesity were compared.

METHODS: An Institutional Review Board (IRB) approved database of all patients undergoing Roux-en-Y gastric bypass (RYGB) or medical management for T2DM at the University of Minnesota Medical Center was reviewed. All surgical patients met initial NIH criteria for bariatric surgery at initial evaluation. A cohort of patients lost weight prior to surgery and BMI was below 35 kg/m2 on the date of surgical intervention. Outcomes and hemoglobin A1c (HbA1c) reduction of surgical patients were matched to medically managed patients with class I obesity in which HbA1c data was available greater than 11 months post-intervention. T2DM goal was defined as HbA1c <7.0%, systolic blood pressure <130 mm Hg, and LDL cholesterol <100 gm/dL. Student's T-test was used for analysis

RESULTS: 14 patients undergoing RYGB and 12 patients managed medically were identified with class I obesity and T2DM. In the RYGB group, mean pre-op BMI was 34.2kg/m2 and mean age was 55.5 years. At average follow-up interval of 35 months, mean BMI was 25 kg/m2, mean percent excess weight loss (%EWL) was 82.4, mean percent weight loss (%WL) was 27, mean HbA1c decreased from 8.0% to 6.5% (p=0.005) and a composite T2DM medication score decreased from 2.4% to 0.8%. In the medical group, initial mean BMI was 31.7 kg/m2 and mean age was 60.1 years. At average follow-up interval of 46

ABSTRACTS *(continued)*

months, mean BMI increased to 34.6 kg/m². All but one patient gained weight (mean %EWL was -89 and mean %WL was -10.9). Mean HbA_{1c} increased from 6.6% to 7.3%, and a composite T2DM medication score increased from 1.4 to 3.8. Only 25% of patients were at T2DM goal with medical management compared with 79% of RYGB patients ($p < 0.05$)

CONCLUSION: RYGB appears safe for patients with a BMI <35 Kg/m². In comparison to medical management more patients reach goal with fewer medications than patients undergoing medical management. This paper provides important preliminary US data for design of controlled clinical trials and policy considerations.

NOTES

13. DONATION AFTER CARDIAC DEATH: A TWENTY-NINE YEAR EXPERIENCE IN KIDNEY, LIVER, PANCREAS AND LUNG TRANSPLANTATION

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PURPOSE: To report the long-term outcomes of 1218 organs transplanted from donation after cardiac death (DCD) donors from January 1980 through December 2008.

METHODS: 1218 organs were transplanted into 1137 recipients from 577 DCD donors. This includes 1038 kidneys (RTX), 87 livers (LTX), 72 pancreas (PTX), and 21 DCD lungs. The outcomes were compared to 3470 RTX, 1157 LTX, 903 PTX and 409 lung transplants from donors after brain death (DBD).

RESULTS: In contrast to the overall kidney transplant experience, the most recent 16-year period (n=396 DCD and 1,937 DBD) revealed no difference in patient and graft survival, rejection rates or surgical complications but delayed graft function was higher (44.7% vs. 22.0%; $p < 0.001$) in the DCD versus DBD group. In DCD LTX, biliary complications (51% vs 33.4%; $p < 0.01$) and retransplantation for ischemic cholangiopathy (13.9% vs 0.2%; $p < 0.01$) were increased. PTX recipients had no difference in surgical complications, rejection, and hemoglobin A1c levels. Surgical complications were equivalent between DCD and DBD lung recipients.

CONCLUSION: This series represents the largest single center experience with more than 1000 DCD transplants and, given the critical demand for organs, demonstrates successful kidney, pancreas, liver and lung allografts from DCD donors.

NOTES

14. RISK STRATIFICATION FOR THE DEVELOPMENT OF A SUBSEQUENT PNEUMONIA AFTER A NON-DIAGNOSTIC BRONCHO-ALVEOLAR LAVAGE

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Purpose: Broncho-alveolar lavage (BAL) is an invasive bedside procedure intended to define type and concentration of pathological organisms causing ventilator associated pneumonia (VAP). Because BAL results are objectively determined by the microbiology laboratory, the “yield” of positive results is an objective performance metric of appropriate balance of patient risk vs. benefit and efficacy of technique. We hypothesized that absence of pathogens portended a benign clinical course rather than inadequate procedure performance.

Methods:

Microbiology laboratory results from BAL specimens collected from our SICU over a two year period were stratified as positive (POS =>100,000 cfu), indeterminate (INT =<100,000 cfu pathological organisms), or negative defined as mixed flora (MF) or sterile (STR). Consistency of BAL use over time was evaluated by monthly CuSum analysis of positive yield. Clinical relevance of INT, MF and STR results were assessed by incidence of subsequent POS sample if another BAL was performed at any time during their ICU stay. Efficacy of BAL was evaluated by comparing MF and STR patients who had a subsequent POS BAL within 7 days of the initial BAL. Incidence of subsequent POS for MF was compared to STR using Chi-square with alpha set at .05.

Results:

Microbiology results from 949 BAL performed on 494 SICU patients in 2008 and 2009 were interpreted as POS in 381 (40.1%) samples. Of the non POS samples, there were 371 samples from a subsequent BAL during their ICU course. Subsequent course of non-POS samples indicate that presence of any pathogen on the first BAL (INT group) portends a high likelihood of subsequent POS. The majority of MF did not require an additional BAL, whereas almost half of STR did (table 1). The 15 and 12 BALs required within 7 days of the MF and

ABSTRACTS *(continued)*

STR groups represent only a 2.8% incidence of potentially inadequate BAL technique. Monthly CuSum analysis of yield, however, was neither predictable nor consistent.

Conclusion

BAL samples with MF and STR results represent an adequate sampling of secretions that portend a more benign future course for our SICU patients. This may represent as much a therapeutic as diagnostic process for at risk ventilated patients. A BAL result with any form of pathogen, regardless of concentration, should be considered a biomarker for increased risk of future pneumonia as 85% of INT samples (131 of 155) had a subsequent POS BAL at some point during the ICU stay. This fact may help guide a physician to perform a repeat BAL and initiate empiric antibiotic therapy at the time of repeat BAL. Inconsistencies demonstrated by CuSum suggest that better training in timing and indications for BAL may decrease unnecessary procedures that yield negative results.

Table I

Result	Total sample	No sub BAL	Sub BAL pos	Needed Repeat BAL \leq 7d
INT	155	24	131	48
MF	125	91 *	34	15
STR	91	59 *	32	

* P=.21, Chi-square

NOTES

15. THE ADDITION OF A NURSE PRACTITIONER TO AN INPATIENT SURGICAL TEAM RESULTS IN IMPROVED UTILIZATION OF RESOURCES

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PURPOSE: There are many challenges facing academic medical centers today including resident work hour restrictions and changes in reimbursement. As a result, the continuity of care between a patient in the hospital and after discharge may be adversely affected. The purpose of this study was to determine whether adding a nurse practitioner (NP) to a busy inpatient surgical service would improve patient care after discharge.

METHODS: In 2007, a NP joined the surgical team that included three surgical attendings. Her primary responsibility was coordinating the discharge plan and communicating with patients after discharge. The records of inpatients one year before (N=415) and one year after (N=411) the NP joined the team were analyzed. The clinical course of the patients were reviewed including demographics, type of surgery, home services rendered, telephone calls, unnecessary emergency room (ER) visits, and hospital readmissions. An unnecessary ER visit was defined as an ER visit that did not result in an inpatient admission.

RESULTS: The two groups were statistically similar in regards to age, race, acuity of surgery, length of hospital stay and hospital readmissions. The median hospital stay was 6 days in both groups. Telephone communication between clinic/hospital nurses and discharged patients was 846 calls before the NP. After the NP joined the team, 1319 follow up phone calls were made to discharged patients, representing an increase of 64% ($p < 0.0001$). Home services, including a visiting nurse, physical therapy, or occupational therapy were rendered to only 25% (104/415) of patients before the NP compared to 160/411, 39% after the NP ($p < 0.0001$). There were significantly more unnecessary ER visits before the NP (103/415, 25%) compared to after the NP (54/411, 13%) representing a 50% reduction ($p = 0.001$). The estimated difference in charges for unnecessary ER visits before and after the NP was \$40,000,

ABSTRACTS *(continued)*

approximately half of the NP's salary.

CONCLUSION: This study demonstrated overall improved utilization of resources with a NP on a surgical team. In addition, unnecessary ER visits decreased a dramatic 50%. These findings come at a time when health care reform is at a significant turning point. It has been proposed that Medicare and private insurance companies will no longer cover emergency room visits or hospital readmissions for post-operative patients. This study demonstrates that the addition of a NP not only improves continuity of care upon discharge but also has the potential to yield financial benefits for the hospital.

NOTES

16. IN-HOUSE DIRECT SUPERVISION BY AN ATTENDING IS ASSOCIATED WITH DIFFERENCES IN THE CARE OF PATIENTS WITH BLUNT SPLENIC INJURY

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Objective: The purpose of this study was to evaluate differences in the management of blunt spleen injuries between two acute care surgery models: Attending in-house (AIH) w/ direct resident supervision vs. Attending at home (AAH) with indirect resident supervision.

Methods: All patients with blunt splenic injury from 01/03 to 07/09 admitted to a regional level one trauma center were analyzed. Data included patient demographics, injury data, hospital course data and treatment modality.

Results: There were 518 patients of which 285 (55%) presented with an AIH, 158 (30.5%) presented with AAH, and 75 (14.5%) presented when a fellow was the most senior person in house (FIH). The mean ISS was 21.2 and the mean age was 34 years. The comparison between AAH and AIH are shown below. Additionally, the head and face abbreviated injury scores were significantly higher in the AIH group, while the distributions of splenic injury grades were similar between the two groups. A separate analysis of patients managed by a FIH demonstrated a practice pattern and outcomes that fall between AAH and AIH.

Conclusion: An acute care surgery model with an AIH and direct resident supervision demonstrated less utilization of resources measured by more frequent observation and fewer ICU admissions, ventilator days, and splenic artery embolizations. These findings likely reflect greater caution by attending surgeons when they are home and are not directly supervising or evaluating patients.

ABSTRACTS *(continued)*

	AIH	AAH	p-value
Age (years)	35.5	31.2	0.016
ISS	21.4	20.2	NS
Splenic Injury Grade	2.7	2.7	NS
ICU Admission	212 (74.4%)	133 (84.2%)	0.017
Ventilated	74 (26.0%)	45 (28.5%)	NS
Ventilator days (if intubated)	7.2	10.2	0.021
LOS (days)	7.10	8.10	NS
Hospital Charges (Dollars)	\$46970	\$47621	NS
Observation	222 (77.9%)	102 (64.6%)	0.004
Splenic Artery Embolization	47 (16.5%)	47 (29.7%)	0.002
Splenic Salvage	268 (94.0%)	147 (93.0%)	NS
Mortality	29 (10.2%)	11 (7.0%)	NS

NOTES

17. RISING HOSPITAL COSTS FOR CLOSTRIDIUM DIFFICILE COLITIS: HOSPITAL TYPE MATTERS.

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Purpose: To describe the trend in hospital costs attributable to *Clostridium difficile* colitis (CDC) and how factors such as hospital size, rural or urban care settings, and status as a teaching hospital affects the cost of treating this disease.

Methods: Data from the Pennsylvania Health Care Cost Containment Council (PHC4) was reviewed for 2005-2008. Cost-to-charge ratios were used to derive costs from hospital charges, and costs were inflation-adjusted. Propensity-scored matched CDC and non-CDC cohorts were compared. Analysis of variance was used to test mean cost differences among small, medium and large-sized hospitals. Generalized linear regression was performed to study factors associated with CDC costs.

Results: A total of 82,860 CDC patients were identified in 2005-2008. The average cost (in 2008 dollar value) per admission for CDC patients was \$21655 in 2005-2008, compared to \$10448 for non-CDC patients. For each year studied, patients with CDC consistently had greater than 50% higher mean hospital costs per admission than the matched, non-CDC cohort ($p < 0.001$). Though the per admission costs for the CDC cohort rose by 25% from 2005 to 2008, the number of CDC patients dropped by 16%. Among rural hospitals, the smallest facilities had the highest costs ($p < 0.001$), as was the case with urban-non-teaching hospitals ($p < 0.001$). By contrast, costs did not significantly differ among urban-teaching hospitals of varying sizes ($p = 0.51$). Costs were twice as high for urban-teaching facilities as other types of care settings ($p < 0.001$), due in part to the finding that based on a Charlson comorbidity index, patients with higher comorbidity were preferentially treated at urban and teaching facilities ($p < 0.001$). Multivariable analysis within the CDC cohort demonstrated that teaching ($p < 0.001$) and urban hospitals ($p < 0.001$), and non-White ($p < 0.001$) patients were associated with higher overall hospital cost.

ABSTRACTS *(continued)*

Conclusions: Based on state wide data, the trend for cost for in-patient management of CDC in Pennsylvania has been increasing over the last several years. Teaching and urban hospitals treat the group of CDC patients with the highest co-morbidity, which may account for their higher cost of care. Nonetheless, the cost of treating CDC patients is comparable among different sized urban-teaching hospitals, which may reflect a more standardized approach toward treatment choices.

NOTES

18. H2 BLOCKERS DECREASED GUT MUCUS PRODUCTION AND LEAD TO BARRIER DYSFUNCTION IN VITRO

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PURPOSE: An increased incidence of pneumonia and other infectious complications have been associated with the use of Histamine₂ receptor (H₂) antagonists such as cimetidine in critically ill patients. The mechanisms may include acid suppression with resultant effects on the gut flora. Other possibilities include immunological effects and perturbation of gut barrier function. Recent work has demonstrated the importance of mucus on the gastrointestinal mucosal barrier. We studied the effect of cimetidine on mucus production and mucosal barrier function in vitro.

METHODS: HT-29 MTX a mucus producing intestinal epithelial cell line was used. HT-29 MTX cell monolayers were grown to confluence in the presence of cimetidine for 0, 3 or 6 days. Mucus production was quantitated by Western Blot analysis and O-linked oligosaccharide chain (OSC) content (a marker for mucin levels) by ELISA. In other experiments, fluorescein-labeled Escherichia coli (FITC-EC) or unlabeled EC were added to quantify bacterial adherence (60 minute co-culture) and passage thru HT-29 MTX cell monolayer's (120 minute co-culture) respectively.

RESULTS: (see attached Table). Decreased mucus production after cimetidine exposure was confirmed by Western Blot analysis. The effect was more pronounced after 6 days of cimetidine exposure.

CONCLUSIONS: Cimetidine contributes to gut barrier dysfunction by its effect on mucus production. At risk patients should have alternative stress ulcer prophylaxis.

ABSTRACTS *(continued)*

RESULTS: mean \pm S.D.

Cimetidine	OSC content (μmol) N=4	<i>E.coli</i> Adherence (<i>E.coli</i> /mm ²) N=3	<i>E.coli</i> passage (log ₁₀ CFU/ml) N=3
Day 0	3.9 \pm 0.4	199 \pm 9.2	0.40 \pm 0.1
Day 3	2.8 \pm 0.2*	183 \pm 14.2	0.65 \pm 0.1*
Day 6	1.5 \pm 0.2*#	147 \pm 6.1*#	0.71 \pm 0.11*

*p<0.001 vs. Day 0, #p<0.001 vs. Day 3

NOTES

19. CITRULLINE: A POTENTIAL IMMUNOMODULATOR IN SEPSIS

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Purpose: Sepsis leads to a complex systemic response of cytokines (pro and anti-inflammatory), and more recently recognized adipokine mediators. Endothelial nitric oxide (NO) may be a key component in regulating this response, however pharmacologic manipulation of endothelial NO via L-arginine supplementation or inhibitors has provided inconsistent clinical data related to outcomes. These failures are due to metabolism of L-arginine in the liver, toxicity of L-arginine, and ADMA inhibition all of which may explain the "arginine paradox". L-citrulline offers a potentially valuable means of supplementing arginine and therefore favorably impact NO availability. The goal of this study was to determine whether citrulline (CIT) supplementation altered the systemic response of mediators and cytokines in a rat sepsis model with varying degrees of severity.

Methods: Sepsis was induced with 2 cecal ligation (CLP) models of varying severity in Wistar rats. Citrulline supplementation was provided to half the animals as 8% citrulline supplemented feed for 3 weeks. Baseline mediator levels were assessed in the Wistar rats followed by comparison of the following groups at day 0, 1, and 3: Sham operated; CLP 8mm (localized); and CLP 12mm (extensive). Blood was obtained via cardiac stick at the time of euthanasia. The following analyses were performed in the groups: IL-6, IL-8, IL-10, resistin, and adiponectin levels (enzyme-linked immunosorbent assay performed in duplicates). Parametric 2 sample t-test and Mann Whitney U was used for statistical analysis with significance set at $p < 0.05$

Results: 98 Wistar rats were evaluated and survival was similar (85%) in both sepsis models with and without citrulline. IL-6 was statistically lower in the CIT/CLP8 group compared to non-citrulline (41 vs 117 pg/ml $p = 0.011$) on postop day 3. IL-8 and IL-10 responses were similar across all groups. Resistin was statistically lower in the CIT/CLP12 group compared to non-CIT in the more severe sepsis model on day 3 (clp 12 mm) (19 vs 38 ng/ml $p < 0.0001$). Adiponectin was not effected

ABSTRACTS *(continued)*

by citrulline supplementation.

Conclusion: The data suggest that citrulline may reduce the pro-inflammatory mediator response (IL-6 and resistin) without impairing secretion of anti-inflammatory mediators (IL-10 and adiponectin). Citrulline may provide a safe means of immunomodulation which preserves the anti-inflammatory mediator response. Further work is needed to confirm the results and mechanism of this effect.

NOTES

20. GENERAL SURGERY TRAINING WITHOUT ADVANCED LAPAROSCOPIC FELLOWS: THE IMPACT ON RESIDENTS AND PATIENTS

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PURPOSE: To determine the change in resident advanced laparoscopic case volume after discontinuation of an advanced laparoscopic surgery fellowship, and to examine differences in patient care over the same time period.

METHODS: Resident case logs from a minimally invasive gastrointestinal surgery service were compared for a two year period before and one year after discontinuing the fellowship, using two sample t-tests. Prospectively populated databases for all laparoscopic bariatric and esophageal surgery were reviewed retrospectively to compare operative time, length of stay, and major complication rate (stratified by senior resident or fellow participation) over the same time period using a two sample t-test. Data was analyzed using SAS 9.2 (Cary, NC).

RESULTS: Significant increases were seen in mean senior resident advanced laparoscopic volume [(Mean Fellow Year (FY) = 21 operations vs Non Fellow Year (NFY) = 61, $p < 0.01$)], laparoscopic esophageal volume (FY = 1 vs NFY = 11, $p < 0.01$) and bariatric volume (FY = 9 vs NFY = 36, $p < 0.01$). Junior resident total case, basic, advanced, and laparoscopic bariatric volume also increased significantly ($p < 0.05$). No difference in hospital length of stay or major complication rate was seen comparing resident and fellow as assistant. However, mean operative time was significantly longer for laparoscopic gastric bypass with resident assistant vs fellow assistant (152 ± 51 minutes vs 138 ± 53 , $p < 0.05$).

CONCLUSION: Discontinuing an advanced laparoscopic fellowship results in a significant increase in both senior and junior resident case volume in advanced laparoscopic surgery. Operative time for complex operations may increase in the absence of an experienced assistant surgeon. Other patient outcomes do not appear to be adversely affected by this change.

ABSTRACTS *(continued)*

NOTES

21. EVALUATING RESIDENT OPERATIVE PERFORMANCE: A QUALITATIVE ANALYSIS OF EXPERT OPINIONS.

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PURPOSE: Current surgical training focuses on performing a specified number of procedures for a fixed period of time. It is becoming less acceptable to allow trainees to graduate without an objective measure of surgical competency. In order to develop a national examination, experts must reach agreement on how to evaluate resident operative performance (ROP). Our aims were to elicit and analyze the strengths and weaknesses of ROP as identified by independent expert ratings and expert group discussion.

METHODS: Groups of 7 expert surgeons were invited to evaluate audio/video tapes of 8 ROP of lap chole, open inguinal hernia, thyroidectomy, lap ventral hernia (2 of each), at the American Board of Surgery Offices. Experts blinded to the resident PGY level, independently evaluated each ROP on rating forms with procedure specific and general items on 5 point Likert scales. Experts also listed ROP strengths and weaknesses and participated in a group discussion after completing their individual ratings. Using a grounded theory approach of constant comparative analysis, themes were derived from comments on strengths and weaknesses and coded as: Technical Skills(TS), Forward Planning(FP), Self Direction(SD), Situation Awareness(SA), Patient Safety(PS). Comments were also coded as procedure specific(PSI) or general (GSI).

RESULTS: 19 experts independently entered 1,087 comments on strengths and weakness of 8 ROP (Table). As there was some overlap, these 1,087 comments were distilled to 300 comments in the post independent rating discussion. Consensus was reached on 85(28%) of these 300 comments with majority agreement on another 83(28%). The dominant focus was on forward planning. With the exception of the 2 lap chole cases, raters focused more on general than procedure specific skills ($p < .05$).

CONCLUSION: Contrary to expectation less than 30% of rater

ABSTRACTS *(continued)*

comments focused on technical skills when identifying ROP strengths and weaknesses. Although there was considerable variation in individual comments and opinions as might be expected from a disparate group of surgeons, majority agreement was reached on 56% of comments during the post independent rating discussion. These findings will inform further decision making on the creation of a national examination to evaluate end of training surgical competence.

No. Comments(%)	TS	FP	SD	SA	PS	PSI	GSI
Pre Weakness 649(60%)	162(25%)	197(30%)	102(16%)	62(10%)	126(19%)	^{1,2} 167/382 (44%)	¹ 215/382 (56%)
Pre Strengths 438(40%)	122(28%)	131(30%)	63(14%)	54(12%)	68(16%)	^{1,2} 86/260 (33%)	¹ 174/260 (67%)
Post Weakness 198(66%)	51(26%)	64(33%)	20(10%)	16(8%)	47(24%)	52/118 (44%)	56/118 (56%)
Post Strength 102(33%)	29(29%)	30(30%)	16(16%)	14(14%)	13(13%)	¹ 12/73 (16%)	¹ 61/73 (94%)
³ Consensus Weakness 46(54%)	12(26%)	12(26%)	7(15%)	7(15%)	8(17%)	¹ 7/24 (29%)	¹ 17/24 (71%)
³ Consensus Strength 39(46%)	11(28%)	10(26%)	10(26%)	4(10%)	4(10%)	¹ 3/26 (11%)	¹ 23/26 (89%)

¹P<.05 comparing PSI with GSI

²P<.05 comparing weaknesses and strengths

³Post discussion comments on which there was consensus agreement

NOTES

22. TEAM TRAINING CAN IMPROVE OPERATING ROOM PERFORMANCE

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PURPOSE: To determine if team training using a federal sponsored team training program improves operating room (OR) performance and culture.

METHODS: The Team STEPPS program a team training program designed and tested for healthcare applications was provided to the operating room staff. The training occurred over two months to all members of the OR team including scrub technicians, nurses, CRNAs, anesthesiologists, surgeons and all anesthesiology and surgical resident staff.

RESULTS: After nine months there was a significant improvement in the operating room (OR) staff team work (score 53.2 to 62.7 $p < .05$) and OR communications (score 47.5 to 62.7 $p < .05$). There was significant improvement in OR first case starts (69% to 81%), SQIP measures (antibiotic administration 78% to 97% $p < .05$; VTE administration 74% to 91% $p < .05$ and beta blocker administration 19.7% to 100% $p < .05$) as well as patient satisfaction (willingness to recommend 77% to 89.3% $p < .05$). NSQIP measured overall surgical morbidity and mortality which were significantly improved (mortality 2.7 to 1% $p < .05$; morbidity 16.2 to 7.7% $p < .05$) indicating a significant change in the overall OR culture. A year later the data showed that factors linked to regulatory requirements such as SQIP measures linked to the time out remained improved while first case on time starts decreased (81 to 69% $p < .05$), patient willingness to recommend decreased (89.3 to 80.8% $p < .05$) surgical mortality increased (1 to 1.8% $p < .05$) and surgical morbidity increased (7.7 to 11% $p < .05$) all reflecting culture deterioration.

CONCLUSION: These data confirm that team training improves OR performance but continued team training is required to provide sustained improved Operating Room culture.

ABSTRACTS *(continued)*

NOTES

23. MORBIDITY AND MORTALITY AFTER BOWEL RESECTION FOR ACUTE MESENTERIC ISCHEMIA

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PURPOSE: Patients presenting with acute mesenteric ischemia (AMI) sufficiently advanced to require bowel resection have a high morbidity and mortality. The primary aim of this study is to analyze a large group of patients requiring bowel resection for AMI to determine if certain preoperative and intra operative variables are predictive of death or complications. A secondary aim was to develop a prediction model to aid in surgical decision-making, informed patient consent, and risk reduction.

METHODS: Patients undergoing bowel resection for AMI were identified from the American College of Surgeons' National Surgical Quality Improvement Program (NSQIP) database for years 2007 and 2008. Sixty-eight pre-operative and intra-operative variables were analyzed using multivariate logistic regression.

RESULTS: Eight hundred sixty-one patients were identified, equally distributed between males and females, with a median age of 69. Eight (0.93%) patients had concomitant vascular surgery. Thirty-day postoperative morbidity and mortality were 56.6% and 27.9%, respectively. Median length of stay was 11 days. Preoperative variables significantly associated with postoperative morbidity (C statistic-0.79) included admission from chronic care facility versus home (Odds ratio [OR] 4.17; 95% Confidence Interval [CI]-1.65-10.53), recent myocardial infarction (OR 2.29; 95%CI-1.01-5.18), chronic obstructive pulmonary disease (OR 1.97; 95%CI-1.27-3.08), on ventilator preoperatively (OR 1.95; 95%CI-1.18-3.22), preoperative acute renal failure (OR 1.93; 95%CI-1.03-3.61), emergency operation (OR 1.72; 95%CI-1.14-2.58), previous cardiac surgery (OR 1.62; 95%CI-1.05-2.49), and prolonged operative time (OR 1.003; 95%CI-1.001-1.006). Preoperative variables significantly associated with postoperative mortality (C statistic-0.84) included preoperative do not resuscitate (DNR) status (OR 3.19; 95%CI-1.19-8.55), open wound (OR 2.35; 95%CI-1.30-4.26), low albumin (OR 1.93; 95%CI-1.13-3.28), dirty versus clean contaminated

ABSTRACTS *(continued)*

case (OR 1.91; 95%CI-1.15-3.17), and totally dependent versus independent functional status (OR 1.88; 95%CI-1.12-3.15). Small bowel vs. colon resection and type of bowel resection (ostomy, etc.) did not impact morbidity and mortality. These factors were used to develop risk calculators predicting postoperative morbidity and mortality.

CONCLUSION: Mortality and morbidity rates following bowel resection for AMI are high. Admission from chronic care facility, DNR status, cardiac, pulmonary, and renal comorbidities, dependent status, emergent procedure, class four wound, and operative time are associated with an increased risk. Based on this data, we have developed a risk calculation formula which predicts postoperative morbidity and mortality.

NOTES

24. LATE ABDOMINAL AORTIC ENDOGRAFT EXPLANTS: INDICATIONS AND OUTCOMES

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Purpose:

Despite advances in endoluminal salvage for failed endografts, certain circumstances necessitate EVAR (endovascular abdominal aneurysm repair) explant and definitive open surgical repair. We review the indications for and outcomes following late EVAR conversion.

Methods:

Retrospective review of EVAR patients requiring delayed (> 30 days) conversion from 1999-2009. Demographics, index endovascular procedure, indication/technique for conversion, and outcomes were analyzed.

Results: Among 16 patients that required late conversion, mean age was 73 years (range 41-84) and 94% were men. Indications included endoleak with sac expansion (n=6), endograft infection (n=6), rupture (n=3), and graft infolding (n=1). Explanted prostheses included: Zenith (n=7), Excluder (n=3), AneuRx (n=3), Powerlink (n=2), and Ancure (n=1). Prior to conversion, 7 patients underwent unsuccessful secondary salvage procedures. Open surgical conversion was performed either via a transperitoneal approach (81%) or a left retroperitoneal approach (19%) with 75% requiring supraceliac control. In-hospital mortality following endograft removal was 12.5% (2/16). Reconstructions were dependent on the clinical manifestations and included: in situ prosthetic repair (n=10), extra-anatomic bypass (n=4), and in situ cryopreserved human allograft repair (n=2). In-hospital postoperative complications included myocardial infarction (n=2), respiratory failure/pneumonia (n=5), acute renal failure (n=6), mesenteric ischemia (n=1), lower extremity ischemia (n=2), postoperative hemorrhage (n=2), duodenal injury (n=1), venous thromboembolism (n=2), and psoas abscesses (n=1). Mean length of hospital stay for survivors was 18 days (range, 6-78) and 50% were discharged directly home.

Conclusion:

Most delayed EVAR conversions are due to inadequate aneurysm exclusion or infection and can be successfully converted to a traditional open surgical reconstruction. As expected, supraceliac control is often required and the perioperative morbidity and mortality is higher than primary open repair or EVAR.

The study addresses how best to manage failed abdominal aortic endografts and what can be done to improve patient outcomes with this difficult clinical problem.

NOTES

25. PRIMARY TUMOR SIZE, NOT RACE, DETERMINES OUTCOMES IN WOMEN WITH HORMONE-RESPONSIVE BREAST CANCER

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INTRODUCTION: African-American breast cancer patients are known to have a worse survival than their Caucasian counterparts. Whether this poor outcome is due to race itself, or whether this is related to the propensity of triple negative disease, delay in diagnosis or disparities in treatment is less clear. We sought to determine (a) if there was a difference in survival in African-American women with hormone-responsive breast cancer, and (b) whether this was related to race or other tumor and treatment variables.

METHODS: The Kentucky Cancer Registry was queried for invasive breast cancer cases between 1996 and 2007. Of the 1903 cases identified, 1205 (63.3%) were hormone-responsive (ER+ and/or PR+). These patients formed the cohort of interest. Patient demographic data, tumor characteristics, and treatment variables were collected and correlated to race. The effect of race on survival was evaluated with log-rank tests using Kaplan-Meier methodology; multivariate survival analysis was performed using Cox regression.

RESULTS: Of the 1205 patients in this cohort, 927 (76.9%) were Caucasian, and 262 (21.7%) were African-American. Compared to Caucasians, African-American women were older (median 57 vs. 55 years, $p=0.032$), and were more likely to have larger tumors at presentation (median 19 mm vs. 17 mm, $p=0.009$). There was no significant difference in the proportion of grade 3 tumors (35.4% vs. 28.7%, $p=0.127$), node-positive tumors (42.6% vs. 27.7%, $p=0.379$), proportion of patients treated with mastectomy (30.1% vs. 25.0%, $p=0.331$), chemotherapy (43.1% vs. 41.9%, $p=0.249$) or hormonal therapy (57.3% vs. 56.3%, $p=0.586$). On univariate analysis, there was no significant difference in terms of overall survival between Caucasians and African-Americans with hormone-responsive tumors (5-year actuarial survival: 93.6% vs. 90.7%, $p=0.232$). On multivariate analysis, only tumor size remained a significant independent predictor of overall survival (OR: 1.021; 95% CI: 1.014-1.027, $p<0.0005$). Race, however,

ABSTRACTS *(continued)*

did not influence outcome in a model controlling for age and tumor size ($p=0.693$).

CONCLUSIONS: We demonstrate that in patients with hormone-receptor positive breast cancer, there are no significant differences in treatment between Caucasians and African-Americans. Race does not independently predict outcome in these patients; rather African-Americans tend to present with larger tumors, and tumor size is an independent predictor of overall survival in these patients. Efforts geared towards early detection, particularly in African-American women, may improve outcomes.

NOTES

26. SAMPLING OF SECONDARY MARGINS REDUCES NEED FOR RE-EXCISION AFTER PARTIAL MASTECTOMY

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Purpose: Partial mastectomy (PM) has become common in the treatment of breast cancer (BC). We sought to determine factors that influenced the need for re-excision and the effects on disease recurrence.

Methods: In an IRB approved retrospective study of all BC patients treated with PM at a single institution during 2000-2008, logistic regression was used to determine the significance of variables in multivariate analysis. The main outcome measures were need for re-excision, residual disease in the re-excision specimen, conversion to mastectomy, and recurrence.

Results: 470 patients underwent PM for invasive and noninvasive BC. 53 were excluded from multivariate analysis for undocumented tumor size or margin width. 134 (32.6%) patients underwent re-excision for inadequate margins. 52 (11%) patients ultimately underwent mastectomy, 9 for late recurrence (>2 years from initial surgery). 12 (2.6%) patients had local recurrence of disease; mean follow up 4.2 years. Local recurrence rates for PM followed by RT was 1.6% (6/369) as compared to 10.3% (6/58) for PM without RT, $p < 0.0001$. In addition to inadequate margins (<2mm), factors increasing the likelihood of re-excision included: wire localization (3.3-fold), <2mm DCIS margins (4-13-fold), and lobular carcinoma (5-fold). Taking secondary margins (SM) at initial surgery reduced odds ratio for the need of re-excision by 50% ($p = 0.027$) without a significant difference in volume of breast tissue removed ($p = 0.33$). Use of SM significantly reduced re-excision rates if wire localization was used ($p = 0.0014$) or if the specimen contained DCIS ($p = 0.016$). Invasive disease found in the SM was predictive of disease being present in the specimen at re-excision. Inadequate margins without re-excision had 22% overall recurrence rate as compared to 7% in patients with negative margins originally or clear margins after re-excision.

ABSTRACTS *(continued)*

Conclusions: Although one-third of patients initially treated with PM required re-excision, 89% avoided the need for mastectomy. Taking SM during the initial procedure reduced by half the need for a second operative procedure for re-excision. Successfully obtaining clear margins during a second procedure reduced the recurrence rate to the same as obtaining clear margins during the initial surgery.

NOTES

27. A RETROSPECTIVE REVIEW OF THE USE OF INTRAOPERATIVE CHOLANGIOGRAM IN THE DIAGNOSIS AND TREATMENT OF CHOLEDOCHOLITHIASIS

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Purpose: The management of both cholelithiasis and choledocholithiasis has evolved in the last two decades with the use of laparoscopic cholecystectomy (LC) and endoscopic retrograde cholangiopancreatography (ERCP). Yet the indications for intraoperative cholangiogram (IOC) remain controversial. The purpose of this study was to evaluate the current practice patterns and results for use of IOC during LC at a tertiary care center.

Methods: We performed a retrospective review of all who underwent LC from January 1, 2005 to December 31, 2009 at a single tertiary care center. Data variables included: preoperative laboratory and radiographic studies, indication for and findings of IOC, operative management of choledocholithiasis and retained common bile duct stones.

Results: There were 1334 patients who underwent LC by 23 surgeons. In the study group 268 IOCs (20%) were performed. In addition to an ultrasound examination, 242 patients had a CT scan, and 129 patients had a nuclear (HIDA) scan. The patients receiving an IOC had the following indications: 95 patients had a clinical history suggestive of choledocholithiasis (e.g. jaundice, gallstone pancreatitis), 109 patients had elevated hepatic enzymes (total bilirubin greater than 1.6 or alkaline phosphatase greater than 160), and 36 patients had dilated biliary ducts greater than 6mm on ultrasound or CT.

Out of the 268 IOC performed, 34 patients (12.7%) had a common bile duct stone. Out of these 34 patients the majority (n = 26, 77%) had normal preoperative imaging studies without suggestion of choledocholithiasis. These studies included: ultrasound alone 65% (N=17), CT scan alone 8% (N=2), both ultrasound and CT scan 23% (N=6), and HIDA 4% (N=1). Only 6 patients (18%) with common bile duct stones on IOC underwent successful clearance of the stones at

ABSTRACTS *(continued)*

the time of LC. The remaining 28 patients underwent postoperative ERCP with extraction of the common bile duct stones in all cases. Of the 1066 LCs performed without an IOC, 15 patients (1.4%) were diagnosed with a retained common bile duct stone managed by postoperative ERCP. These patients underwent post-operative ERCP because of abnormal postoperative labs, imaging, or symptoms within 90 days of their operation.

Conclusion: This data shows that: 1) the selective use of IOC is helpful in diagnosing and potentially clearing common bile duct stones; 2) the use of IOC based on pre-operative labs, imaging, and clinical history increases the effectiveness of selecting patients with choledocholithiasis and; 3) common bile duct stones identified with IOC but not removed intraoperatively or on imaging studies postoperatively can be successfully managed with ERCP.

NOTES

28. SINGLE-INCISION LAPAROSCOPIC COLECTOMY FOR CANCER: ASSESSMENT OF ONCOLOGIC RESECTION IN A CASE-MATCHED COMPARISON TO STANDARD LAPAROSCOPIC TECHNIQUES

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PURPOSE: Single-incision laparoscopy is an advance in laparoscopic colectomy technique and has gained significant momentum. Studies have shown feasibility and safety of single-incision laparoscopic (SIL) colectomy; however, the adequacy of oncologic resection in SIL colectomy for adenocarcinoma is not known. The purpose of this study is to directly compare results of oncologic resection of SIL colectomy for adenocarcinoma of the colon with established standard laparoscopic (LAP) techniques.

Methods: We retrospectively reviewed all of our SIL colectomy cases for adenocarcinoma. Cases were matched for patient age, gender, body mass index (BMI), ASA score, and operation type to an equivalent number of LAP cases. All operations were performed by a board certified colorectal surgeon with extensive laparoscopic colectomy experience. Operative outcomes measured include operative time and estimated blood loss (EBL). Results of oncologic resection were obtained from final pathology reports and included tumor size, number of lymph nodes (LN), mesenteric pedicle length, and proximal and distal margin distance. IRB approval was obtained.

Results: Data in Table is expressed as mean \pm stdev. Statistical significance between groups was determined by t-test. There were twenty-one patients (9 male; 12 female) in both the SIL and LAP colectomy groups. Within each study group there were 15 right, 4 left, and 2 distal transverse colectomies performed. The mean age, BMI, and ASA scores were similar between the two study groups (Table). There was no difference between operative time and EBL between the SIL and LAP colectomy groups. Furthermore, results of oncologic resection were equivalent for SIL and LAP colectomy groups (Table) including tumor size, number of LN retrieved, mesenteric pedicle length, and proximal and distal margin distance.

ABSTRACTS *(continued)*

Conclusions: These data suggest that SIL colectomy for adenocarcinoma provides equivalent results for oncologic resection compared to standard LAP technique when performed by an experienced laparoscopic surgeon. Further studies are required to determine long-term oncologic outcomes including recurrence and survival rates.

Table. Results of oncologic resection after single incision laparoscopic (SIL) and standard laparoscopic (LAP) colectomy for adenocarcinoma of the colon.

	SIL Colectomy	LAP Colectomy	p - value
	n = 21	n = 21	
Age	64.0 ± 13.6	65.8 ± 12.4	0.66
BMI	27.9 ± 5.6	27.4 ± 5.1	0.79
ASA Score	2.6 ± 0.5	2.6 ± 0.5	1.0
Operation Time (min)	147.9 ± 45.4	139.2 ± 49.9	0.56
EBL (ml)	52.6 ± 30.4	87.1 ± 74.7	0.06
Oncologic Resection			
Tumor Size (cm)	4.3 ± 2.0	3.7 ± 1.7	0.35
Lymph Nodes (#)	17.2 ± 6.7	18.6 ± 12.2	0.66
	(range 10 – 30)	(range 9 - 69)	
Pedicle Length (cm)	7.4 ± 1.6	7.3 ± 1.4	0.82
Proximal Margin (cm)	9.0 ± 4.2	9.2 ± 5.6	0.89
Distal Margin (cm)	10.0 ± 6.3	9.2 ± 5.1	0.62

BMI, body mass index; ASA, American Society of Anesthesiology; EBL, estimated blood loss; Statistical analysis by t-test with statistical significance $p < 0.05$.

NOTES

29. OPTIMIZING THE MANAGEMENT OF CUTANEOUS MELANOMA IN THE ELDERLY

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PURPOSE: Over the past 25 years, the incidence of melanoma in patients ≥ 65 years has increased threefold. Comorbidities associated with aging may limit tolerance to recommended treatment options such as aggressive surgery and systemic immunotherapy. Differences in melanoma biology, host factors such as immunosenescence, and accessibility to and delivery of appropriate healthcare may contribute to the adverse prognostic effect of age on outcome. Thus we undertook this study to identify factors associated with outcome among elderly melanoma patients in our community surgical oncology practice.

METHODS: From our Melanoma Registry we identified 244 consecutive cutaneous melanoma patients aged ≥ 65 years (median 75, range 65-97 years) at diagnosis of their first primary melanoma. Patient and tumor data were verified by record and report review. Mean (median) follow up for surviving patients was 73 ± 3.7 (68) months. An SAS software package was used for statistical analysis.

RESULTS: 132 patients (54%) were male and 90% Caucasian. Melanoma site was extremity in 43%, trunk in 32% and head/neck in 23%. The most common histologic type was superficial spreading (43%), mean tumor thickness was 1.4 ± 0.1 mm, 16% were ulcerated and the mean mitotic index was 2.88 ± 0.47 . T stage distribution included 36% T1, 14% T2, 14% T3 and 9% T4 tumors. 6% of patients had lymph node (LN) metastases. Site varied with sex with females more likely to have an extremity primary (55%) and males a truncal primary (40%), $p=0.002$. LN metastases were more prevalent in male (11%) than female (3%) patients, $p=0.007$. There were no significant sex differences in tumor level, thickness, ulceration, mitotic rate and T stage. Undertreatment of the primary tumor occurred in 22.3% of patients and inadequate lymph node staging/treatment in 16.2%. During follow up, 23% of patients recurred, 21% died of unrelated causes and 12% died of melanoma. Recurrence was ~two-fold greater in male (27%) than female (14%) patients, $p=0.01$. Site of first recurrence differed by sex: local only in 6%

ABSTRACTS *(continued)*

of females and males, regional±local in 2% of females and 11% of males, distant±other sites in 6% of females and 10% of males, $p=0.04$. The mean (median) time to recurrence was 33.8 ± 5.3 (16) months. Disease-free (DFS) and overall (OS) survival were worse for male than female patients, with 5 year (10 year) DFS 84.38% (71.9%) vs 68.3% (63.7%), $p=0.005$, and 5 year (10 year) OS 91.9% (91.9%) vs 85.8% (77.7%), $p=0.07$.

CONCLUSIONS: The majority of elderly melanoma patients in our series survived > 5 years after diagnosis. Most patients received appropriate treatment, but room for improvement exists. Male sex was an adverse prognostic factor. Further investigation of the female superiority in survival and strategies to improve early detection and optimize treatment of cutaneous melanoma in the elderly are warranted. Chronologic age alone should not preclude optimal treatment of this potentially curable disease.

NOTES

30. ASSESSMENT OF PLATELET TRANSFUSION FOR REVERSAL OF PLATELET INHIBITORS FOLLOWING TRAUMATIC BRAIN INJURY

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Introduction: Platelet transfusion has become increasingly utilized for the management of traumatic brain injury (TBI) with suspected or documented anti-platelet medication use. Platelet functional assays (PFA) have been utilized to assure promotion of platelet inhibition in cardiac patients. However, the ability of PFA testing to assess adequate reversal of platelet inhibition following TBI has not been adequately characterized.

Methods: A retrospective cohort analysis was performed (5/09-12/09) on blunt injury TBI patients who received platelet transfusion for documented/presumed aspirin or plavix use and underwent sequential PFA testing. PFA testing was performed via a whole blood aspirin response test (aspirin response unit < 550 = platelet inhibition; VerifyNow®) upon arrival in those with suspected TBI and 1 hour after platelet transfusion once TBI was radiographically documented.

Results: Of the 49 patients analyzed (avg. age = 74 ± 15 , 57% Male) 3 had an initial and repeat normal PFA result, leaving 46 with documented platelet inhibition. Of these, 45 patients underwent platelet transfusion (4-20pack, median - 6 pack, IQR [6, 10]) with 30 patients (67%) correcting their initial platelet inhibition on PFA testing. Of the 15 non-responders, 9 patients received additional platelet transfusions followed by PFA testing. Of these, 6 patients (67%) reversed with 1 additional platelet transfusion and 1 patient (11%) with 2 additional platelet transfusions. 2 patients failed to reverse their platelet inhibition despite > 3 platelet transfusions. Comparison across initial platelet responders (n=30) vs. non-responders (n=15) revealed no difference in progression of CT findings or craniotomy (27% vs. 27%, $p=0.99$). Initial responders did receive a greater volume of platelets transfused, suggesting a dose response relationship. (platelet packs, median 6 IQR[5, 10] vs. 8 IQR[6, 10], $p=0.04$)

ABSTRACTS *(continued)*

Conclusions: Platelet transfusion reverses aspirin and plavix induced platelet inhibition as measured by PFA testing. However, this analysis suggests that multiple platelet transfusions are required in a significant proportion of patients. Multiple PFA measurements should be considered in initial non-responders to platelet transfusion. Further prospective evidence assessing the clinical outcomes attributable to PFA directed platelet transfusion following TBI is required.

NOTES

31. ADVERSE OUTCOMES OF PREOPERATIVE ENDOSCOPIC ULTRASOUND (EUS) AND BIOPSY IN PATIENTS UNDERGOING DISTAL PANCREATECTOMY

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PURPOSE: The role of preoperative tissue diagnosis in the management of resectable primary pancreatic tumors remains controversial with ongoing concerns regarding the potential short- and long-term consequences of EUS-guided transgastric fine needle aspiration (FNA) for neoplasms of the body and tail. This study analyzes the potential risks associated with EUS-FNA in patients undergoing distal pancreatectomy (DP).

METHODS: 434 consecutive patients who underwent DP between 2002 and 2009 were identified. After excluding patients who underwent DP for acute or chronic pancreatitis and those with prior pancreatic resections, 230 patients were eligible for analysis. The most common indications for DP were adenocarcinoma (28%), IPMN (20%), and endocrine tumors (17%). Two-way statistical comparisons were performed between patients who did (+EUS) or did not (-EUS) receive preoperative EUS-FNA.

RESULTS: One hundred two (44%) of DP were performed laparoscopically. There were no differences in age, gender, ASA class, DP approach, or operative time or blood loss between the +EUS (n = 179) and -EUS (n = 51) groups. Splenectomy was performed in 162 pts (70%) and did not differ according to EUS. With the exception of adenocarcinoma (n = 57 (32%) +EUS vs. n = 6 (12%) -EUS, p < 0.01), final pathologic diagnosis did not differ significantly between the EUS groups. EUS-FNA caused clinically significant pancreatitis in one patient. Operative outcomes with regards to EUS-FNA are listed in the table below. There were no statistical differences in overall or recurrence-free survivals between cancer patients in the EUS groups. Patterns of tumor recurrence were not associated with EUS-FNA.

ABSTRACTS *(continued)*

CONCLUSION: Preoperative EUS-FNA is not associated with adverse peri- and postoperative outcomes in patients undergoing elective DP for solid or cystic tumors of the pancreas. The potentially detrimental long-term impact of preoperative EUS-FNA in patients with resectable pancreatic adenocarcinoma is not apparent but will require further study.

EUS-FNA	Partial Gastrectomy	Pancreatic fistula*	IR Drain	Infectious Morbidity	Overall Morbidity	30-day Readmission
No (n=51)	2 (4%)	3 (6%)	3 (6%)	9 (18%)	19 (37%)	6 (12%)
Yes (n=179)	14 (8%)	21 (12%)	23 (13%)	33 (18%)	57 (32%)	30 (17%)
p - value	0.21	0.10	0.07	0.54	0.52	0.30

NOTES

32. CHANGES IN SERUM PROTEIN LEVELS IN ULCERATIVE COLITIS PATIENTS FOLLOWING PROCTOCOLECTOMY

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INTRODUCTION: Ulcerative colitis(UC) is a chronic inflammatory condition affecting the colon with no known cause nor medical cure. Its clinical management is compromised by the lack of a simple non-invasive sensitive test which can be utilized to assess disease activity or effectiveness of medication. Proteomics measures the concentrations of serum antigens, cytokines and other biologically active proteins that may play a role in disease processes. Discovery of possible serum indicators of UC is compromised by the inability to prospectively study individuals before and after onset of this idiopathic disease. This study therefore took the converse tack, namely to study UC patients before and after complete surgical removal of their diseased colons.

PURPOSE: To investigate changes in a broad panel of serum proteins in UC patients before and after total proctocolectomy to possibly identify biomarkers associated with disease presence.

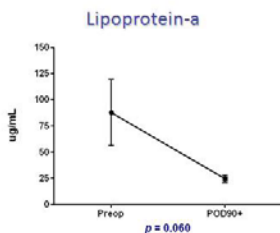
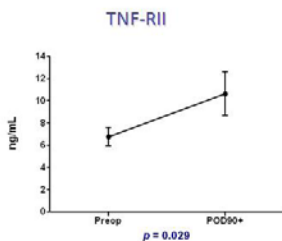
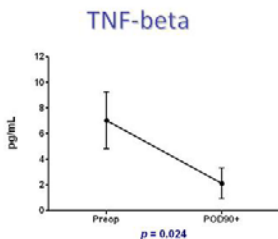
METHOD: Eleven UC patients(mean age 53 +/- 4.9, 9 males, 2 females) undergoing total proctocolectomy(10 elective, 1 urgent) were studied. Preop(within 7 days prior to surgery) and postop(90-360 days after surgery) serum samples were obtained.The HumanMAP(Rules Based Medicine) Luminex assay was used to measure levels of 88 protein antigens including various cytokines, growth factors, interleukins, and hormones. Changes in serum antigen/protein levels were analyzed using paired t-test.

RESULTS: Out of 88 antigens investigated, only 2 (Tissue Necrosis Factor beta, TNF-beta and Tumor Necrosis Factor Receptor 2, TNFRII) were significantly different between the preop and postop periods. Changes in lipoprotein-A approached statistical significance. There was NSD in CRP levels(7.8 +/- 2.6 vs 6.9 +/- 1.9)

CONCLUSIONS: Two functionally related proteins were found to be significantly altered in UC patients after removal of diseased colons.

ABSTRACTS *(continued)*

TNF-beta is produced predominantly by lymphocytes and leukocytes and plays an important role in the innate immunity of the gut by activating the NF-kappa B inflammatory pathway. Serum TNFRII acts as an antagonist to TNF-beta. Therefore, the identified decrease in TNF-beta and increase in TNFRII after proctocolectomy reflects decreased activity in this immunological pathway and may represent proteins that can be utilized to assess disease activity. Lipoprotein-A is a competitive inhibitor of the thrombolytic pathway and thus its relatively elevated preoperative level may play a role in the known increased risk of thrombosis in UC patients.



NOTES

33. THE NEGATIVE IMPACT OF OBESITY ON SUBCUTANEOUS ADIPOSE TISSUE MITOCHONDRIAL BIOGENESIS IS IMPROVED WITHIN DAYS AFTER ROUX-EN-Y GASTRIC BYPASS

FJ Serrot, B Frohnert, R Foncea, RB Dorman, D Leslie, B Slusarek, DA Bernlohr, S Ikramuddin*

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PURPOSE: Recent studies have shown a correlation between mitochondrial biogenesis and insulin resistance. Key genes include: Peroxisome Proliferator-activated Receptor Gamma Coactivator-1 (PGC1 α), Nuclear Respiratory Factor 1 (NRF1), Mitochondrial Transcription Factor A (Tfam) and endothelial Nitric Oxide Synthase (eNOS). The aim of this study is to show that improvement of adipose mitochondrial biogenesis, suppressed in obesity, can occur early before significant weight loss is achieved following Roux-en-Y Gastric Bypass (RYGB).

METHODS: After Institutional Review Board (IRB) approved consent form was signed, human subcutaneous adipose tissue samples from obese and lean patients were harvested at the time of a surgical procedure. Additionally subcutaneous adipose tissue biopsies were taken during and 10 days after RYGB in morbidly obese patients with type 2 diabetes mellitus (T2DM) and studied by real time reverse transcription polymerase chain reaction (RT-PCR) to assess the expression of PGC1 α , NRF1, Tfam and eNOS. Only data from tissue harvested from patients who discontinued insulin and/or thiazolidinediones (TZD's) postoperatively were used to remove the confounding effect of these medications. Additional anthropometric data were collected.

RESULTS: Adipose tissue samples were obtained from 9 obese and 4 lean patients mean preoperative BMI 41 kg/m² and 24 kg/m², respectively. Tfam, NRF1 and eNOS expression was significantly reduced in the obese group. In a group of 6 patients undergoing RYGB, all were under current treatment with either metformin or sulfonylureas and two patients with insulin. and the mean BMI was 48.2 kg/m². In the 4 patients no longer treated with insulin and/or TZDs, significant up-regulation of NRF1 expression was found 8 to 10 days after surgery

ABSTRACTS *(continued)*

(number of cycles decreased from 3.1 ± 0.9 to 2.3 ± 0.5 , $p=0.03$).

CONCLUSION: To our knowledge this is the first study examining acute adipose mitochondrial gene expression changes after bariatric surgery. Although only NRF1 seems to be up-regulated, these data suggests that changes in adipose mitochondrial biogenesis might be an early step in the improvement of insulin resistance after bariatric surgery, early before significant weight loss. These results may uncover a potential therapeutic target for treatment of T2DM. Further studies need to be done.

NOTES

34. IMPACT OF WITHDRAWAL OF CARE ON TRAUMA MORTALITY

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Purpose: Traditional trauma teaching emphasizes that injury occurs primarily in the young and that there is a bimodal distribution of deaths. Observed to expected (O:E) mortality based on Injury Severity Scores (ISS) has often been used to assess quality of trauma center (TC) care. Recently, injuries in the elderly have become a national epidemic; unfortunately, there are few data available on the impact of these demographic changes on mortality. Additionally, there is increasing emphasis in the popular press and medical literature on dying with dignity and end of life care. We studied possible effects of these trends by examining 1) the proportion of patients who died whose outcome could have been impacted by medical care, 2) the effect of withdrawal of care (WOC) on mortality and 3) the timing of trauma deaths.

Methods: All trauma-related deaths for 2008-09 admitted to a Level I TC were assessed for ISS, preventability of mortality, potential for survivability, impact of WOC, and timing of deaths. A log of the circumstances of WOC decisions was prospectively maintained by the hospital.

Results: We treated 5433 patients with 347 deaths (6.4%). Deaths occurred more frequently in men (70%) who were older (average 56.3 years) and often had head injuries (70% with average GCS 6.9). While the average ISS was high (25.5), 19% occurred in minimally injured patients (ISS <15). One-fifth arrived in or rapidly progressed to full cardiac arrest with little to no chance of impacting survival. Of the remaining survivors, 147 (42% of total deaths) had WOC at a mean of 1.5 days based on advanced directives (18%) or family desires. The table shows the timing of death and number of patients from who aggressive efforts were stopped by the family. Medical care could not reasonably have been expected to impact survival in 62% of deaths.

Conclusions: There has been a major shift in the demographics of the injured with a high proportion of elderly and head injured who have

ABSTRACTS *(continued)*

little likelihood of survival. Evaluation of crude mortality or O:E based on ISS significantly overestimates preventable deaths and potential for survival. Societal and cultural factors, presence of advanced directives limiting treatment, and WOC decisions must be considered when assessing TC performance. While our crude mortality was 6.4%, it was only 2.4% in patients we were actually permitted to treat. We suggest a WOC factor should be added to TC data to more accurately characterize mortality rates.

	Early (\leq 48 hrs)	Late ($>$ 48 hrs)
Deaths	230 (66%)	117 (34%)
WOC	85 (24%)	62 (18%)

NOTES

35. IMPACT OF PREINJURY WARFARIN AND ANTIPLATELET AGENTS ON OUTCOMES OF TRAUMA PATIENTS

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Purpose: Coumadin and antiplatelet agents (CAA) are prevalent among trauma patients, but their impact on patient outcomes has not been clearly defined. In this study we examined the impact of pre-injury CAA on outcomes in trauma patients.

Methods: A 40-month (09/04 to 12/07) retrospective review of the data in the trauma registry at our institution was performed. Patients on these anticoagulants were compared to those not on those medications. The main outcomes of interest were death, intracranial hemorrhage (ICH), length of stay (LOS) and disposition on discharge. A separate analysis was done for patients with ICH that included the need for craniotomy. Chi-square and T-test were used appropriately. Poisson regression was used to estimate the relative risk of dying and prolonged LOS.

Results: 3488 trauma patients were identified and 456 were on anticoagulants (coumadin-91, aspirin-223, plavix-43, various combinations-99). Patients on coumadin were 3.1 times more likely to die (RR-3.1; 95% CI: 1.6-6.6), after adjusting for potential confounders (e.g. age, ICH). Aspirin and plavix were not associated with increased mortality. Anticoagulants were associated with increased risk of ICH (50% vs 30%, RR-1.6, 95% CI: 1.4-1.9). CAA did not affect LOS or disposition. In patients with ICH, only coumadin increased mortality (29% vs 6%, RR-3.1, 95% CI: 1.3-7.2), and need for craniotomy (15% vs 7%, RR-2.2, 95% CI: 1.1-4.2).

Conclusion: Preinjury coumadin treatment was found to be a significant risk factor for mortality. Coumadin and anti-platelet agents increased risk of ICH, but only coumadin increased the need of craniotomy. Antiplatelet agents did not affect mortality or LOS

ABSTRACTS *(continued)*

NOTES

36. PRIMARY HYPERPARATHYROIDISM WITH A HISTORY OF HEAD AND NECK IRRADIATION: THE CONSEQUENCES OF ASSOCIATED THYROID TUMORS

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PURPOSE: The risk of radiation-associated thyroid carcinoma became apparent in the 1970's and in subsequent decades the risk of developing hyperparathyroidism (HPT) was documented. There is scant information on thyroid tumors detected before, concurrent, or subsequent to operations for pHPT in patients with a history of head and neck irradiation. The objective of this study was to investigate the thyroid pathology of patients with a history of head and neck irradiation presenting for surgery for primary HPT.

METHODS: Our medical center's prospective database of 1,020 HPT patients who underwent operations for hyperparathyroidism from 2000 through June 2010 was analyzed. HPT patients with Multiple Endocrine Neoplasia (MEN), familial HPT, secondary and tertiary HPT were excluded. 916 consecutive primary, sporadic HPT patients were identified. Clinical information regarding history of head and neck irradiation, all thyroid operations and thyroid pathology, was assessed. Neck ultrasound imaging was performed in 845 patients for preoperative parathyroid localization. Primary HPT patients with a history of radiation were compared to those with no radiation history.

RESULTS: Of the 916 patients, 49 (5%) had a history of radiation. Patients with a history of radiation were more likely to have nodular thyroid disease (86% vs. 52%), undergone a prior thyroidectomy (29% vs. 4%), or had concurrent thyroid resection at the time of parathyroidectomy (49% vs. 26%). Of the 49 patients with a history of radiation, 38 underwent thyroid resection (14 prior and 24 concurrent) and 9 (24%) had thyroid cancer. Of the 867 patients with no history of radiation, only 259 underwent thyroid resection (32 prior and 227 concurrent) and 32 (12%) had thyroid cancer. Patients who underwent prior thyroidectomy had larger cancers (median tumor size: 18 mm in non-irradiated; 20 mm in irradiated group) compared to those undergoing concurrent thyroidectomy (median tumor size: 6 mm in

ABSTRACTS *(continued)*

non-radiated; 2 mm in irradiated group). These cancers were frequently separate from the benign dominant thyroid nodule which prompted concurrent thyroidectomy.

CONCLUSIONS: Patients presenting with primary HPT and a history of head and neck irradiation had:

- a. A marked increase in nodular thyroid disease, resulting in nearly 1/2 of patients undergoing concurrent thyroid resection at the time of parathyroidectomy.
- b. An increased risk of thyroid carcinoma – nearly 1 in 4 HPT patients with a history of neck radiation had thyroid carcinoma documented either at a prior thyroidectomy or at the time of parathyroidectomy. However, these cancers were small, low risk tumors.

Neck ultrasound imaging should be done prior to parathyroidectomy to better detect associated thyroid pathology and to plan the extent of any thyroid resection.

NOTES

“BEST PAPER BY A NEW MEMBER” AWARD

2002

Patient Outcomes for Colon Resection According to Surgeon’s Training, Certification and Experience

Jay B. Prytowski, et al.

Northwestern University Medical School and University of Illinois College of Medicine, Chicago, Illinois

2003

The Relationship of Surgeon and Hospital Volume to Outcome Following Gastric Bypass Surgery in Pennsylvania: A Three-Year Summary

Anita Courcoulas, et al.

University of Pittsburgh, Pittsburgh, Pennsylvania

2004

Diffusion and Implementation of New Technology in Vascular Surgery: The Case of Aorto-Iliac Occlusive Disease

Gilbert Upchurch, et al.

University of Michigan Medical Center, Ann Arbor, Michigan

2005

Intraoperative Parathyroid Hormone Testing Improves Cure Rates in Patients Undergoing Minimally Invasive Parathyroidectomy

Herbert Chen, et al.

University of Wisconsin, Madison, Wisconsin

“BEST PAPER BY A NEW MEMBER” AWARD *(continued)*

2006

Acute Limb Ischemia Associated with Aortic Dissection, Clinical Relevance and Current Therapy

Peter Henke, et al.

University of Michigan, Ann Arbor, Michigan

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Total Pancreatectomy (R0 Resection) Improves Survival Over Sub-Total Pancreatectomy in Isolated Neck Margin Positive Pancreatic Adenocarcinoma

C. Max Schmidt, et al.

Indiana University, Indianapolis, Indiana

2008

Reoperative Thyroidectomy: Improved Imaging and Intraoperative Parathyroid Monitoring Results in a Successful Focused Approach

Tina Yen, et al.

Medical College of Wisconsin, Milwaukee, Wisconsin

2009

Does DCIS Accompanying Invasive Carcinoma Affect Prognosis?

Anees Chagpar, et al.

University of Louisville, Louisville, Kentucky

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2010

Impact of Standardized Trauma Documentation to the Hospital’s Bottom Line

Stephen Barnes, et al.

University of Missouri, Columbia, Missouri

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Maywood, IL 60153

GEOGRAPHICAL LISTING

CANADA

ALBERTA

Calgary

Bathe, Oliver
Dixon, Elijah
Kortbeek, John
Lafreniere, Rene
McKinnon, J. Gregory
McPhedran, N. Tait
Pasieka, Janice
Yilmaz, Serdar

MANITOBA

Winnipeg

Downs, Allan

ONTARIO

Belleville

Inglis, Frederic

Cookstown

Watters, Neil

Hamilton

Knight, Peter
Mueller, C. Barber

Kingston

Sterns, Ernest

London

Duff, John
Passi, Ronald

Mansfield

Pearson, F. Griffith

Ottawa

Harris, Kenneth
Lewis, Ronald

Owen Sound

Mullens, J. Edward

Stayner

Lane, G. Alan

Toronto

Deitel, Mervyn
Filler, Robert
Koven, Irving
McLeod, Robin S.
Rosen, Irving

QUEBEC

Montreal

Brown, Rea A.
Chiu, Ray Chu-Jeng
Feldman, Liane
Fleiszer, David
Fried, Gerald
Gordon, Philip H.
Hampson, Lawrence
Hinchey, E. John
MacLean, Lloyd
McLean, A. Peter
Mulder, David
Rosenberg, Lawrence
Scott, Henry
Shibata, Henry
Sigman, Harvey
Wexler, Marvin

St. Leonard

Rheault, Marcel

GEOGRAPHICAL LISTING *(continued)*

SASKATCHEWAN

Saskatoon

Keith, Roger
McFadden, Andrew
Miller, Grant

CYPRUS

Lefkosa

Canver, Charles

FRANCE

Paris

Pilch, Yosef

GERMANY

Essen

Broelsch, Christoph

GREECE

Athens

Tsapogas, Makis

Thessaloniki

Tsoulfas, Georgios

TURKEY

Siali, Istanbul

Kalayoglu, Munci

UNITED ARAB EMIRATES

Abu Dhabi

Hau, Toni

UNITED STATES OF AMERICA

ALABAMA

Birmingham

Gleysteen, John
Hanaway, Michael
Harmon, Caroll

Mobile

Locicero, III, Joseph

ARIZONA

Carefree

Michaelis, Lawrence

Harrison

Bell, Thomas E.

Mesa

Eckhauser, Marc Lewis

GEOGRAPHICAL LISTING

Paradise Valley

Hale Jr., Harry

Phoenix

Madura, Il, James

Scottsdale

Demeure, Michael
Gonzalez, Luis

Tucson

Zollinger, Jr., Robert
Little, Alex

CALIFORNIA

Coronado

Knutson, Carl

Duarte

Yim, John

El Macero

Andrews, Neil
Berkoff, Herbert
Wolfman, Earl

La Jolla

Bergan, John

Los Angeles

Benfield, John
DeMeester, Tom
Ford, Henri
Gewertz, Bruce
Reber, Howard
Upperman, Jeffrey

Los Gatos

Makowka, Leonard

Orange

Harness, Jay

Rancho Santa Fe

Geha, Alexander

Rescue

Frey, Charles F.

San Diego

Block, Melvin

San Francisco

Doherty, Cornelius
West, Michael

Santa Barbara

Dent, Thomas
Serkes, Kenneth

Santa Rosa

Jacobson, Lyle F.

Torrance

Moore, Thomas

COLORADO

Carbondale

Towne, Jonathan

Denver

Halgrimson, Charles
Moore, Ernest
Ruge, Daniel

GEOGRAPHICAL LISTING *(continued)*

Lone Tree

Chae, Frank

CONNECTICUT

Hartford

Butler, Karyn
Papasavas, Pavlos

New Haven

Chagpar, Anees
Longo, Walter

DELAWARE

Newark

Petrelli, Nicholas

DISTRICT OF COLUMBIA

Washington

De Palma, Ralph
Kirkpatrick, John

FLORIDA

Bartlow

Etheredge, Edward

Bay Pines

Max, Martin

Boca Raton

Barron, James

Bonita Springs

Freier, Duane

Captiva Island

Reyes, Hernan

Coral Gables

Reis, Robert

Jacksonville

Nussbaum, Michael
Sommer, Bruce
Volpe, Carmine

Jupiter

Ernst, Calvin

Long Boat Key

Judd, Donald

Miami

Lew, John

Naples

McChesney, Lawrence

Nokomis

Wittmann, Dietmar

Palm City

Gans, Henry

Ponte Vedra Beach

Barnhorst, Donald

Stuart

Robson, Martin

Tampa

Bandyk, Dennis
Carey, Larry
Dawes, Lillian

GEOGRAPHICAL LISTING *(continued)*

Fabri, Peter
Firor, Hugh
Karl, Richard

Vero Beach

Weil, Richard

GEORGIA

Atlanta

Gordon, Robert
Knechtle, Stuart
Sweeney, John

Decatur

Fink, Aaron

Marietta

Watne, Alvin

Savannah

Zaren, Howard

Valdosta

Beal, John

ILLINOIS

Arlington Heights

Conway, Daniel
Loren, Alan

Belleville

Wade, Terence

Burr Ridge

Gamelli, Richard

Chicago

Abcarian, Herand
Abecassis, Michael
Akhter, Shahab
An, Gary
Angelos, Peter
Baker, Robert
Baker, Talia
Barker, Walter
Benedetti, Enrico
Bernhard, Victor
Bines, Steven
Blum, Matthew
Caicedo, Juan
Chedrawy, Edgar
Choi, Eugene
Collicott, Paul
Connolly, Mark
Crandall, Marie
Das Gupta, Tapas
de Hoyos, Alberto
Deziel, Daniel
Durham, Joseph
Eskandari, Mark
Faber, L. Penfield
Fichera, Alessandro
Flint, Lewis
Francescatti, Darius
Fry, Donald
Fryer, Jonathan P.
Hanlon, C. Rollins
Hansen, Nora
Harper, Paul
Hungness, Eric
Hunter, James
Hurst, Roger
Jeruss, Jacqueline
Kaplan, Edwin
Katherine, Liu

GEOGRAPHICAL LISTING *(continued)*

Kaufman, Dixon
Keen, Richard
Khan, Seema
Kibbe, Melina
Leventhal, Joseph
Mahvi, David
Massad, Malek
Matthews, Jeffrey
McCarthy, Walter
Morasch, Mark
Moss, Gerald
Nagy, Kimberly
Najafi, Hassan
Pearce, William
Pickleman, Jack
Posner, Mitchell
Prystowsky, Jay
Pugh, Carla
Richter, Harry
Roggin, Kevin
Schmitz, Robert
Shapiro, Michael
Shields, Thomas
Skaro, Anton
Snow, Norman
Soper, Nathaniel
Vanecko, Robert
Vargish, Thomas
Vitello, Joseph
Wayne, Jeffrey
Wise, Stephen R.
Wood, Donald
Yao, James

Evanston

Baker, Marshall
Jona, Juda
Prinz, Richard
Sener, Stephen

Talamonti, Mark
Winchester, David
Yao, Katharine

Glenview

Caprini, Joseph
Curtin, John
Paloyan, Daniel

Highland Park

Gould, Steven

Hines

Joehl, Raymond

Hinsdale

Greager, John
Paloyan, Edward
Schuler, James

Hoffman Estates

Fisher, H. Calvin

Itasca

Mozes, Martin

Knoxville

Miller, Joshua

Lake Forest

Weinberg, Jr., Milton

Maywood

Aranha, Gerard
De Jong, Steven
Fisichella, P. Marco
Glynn, Loretto
Godellas, Constantine
Holt, David

GEOGRAPHICAL LISTING *(continued)*

Luchette, Fred
Sankary, Howard
Santaniello, John
Sarker, Sharfi
Shoup, Margo
Slogoff, Michele
Ton-That, Hieu

Naperville

Folk, Frank

Niles

Trippel, Otto

North Chicago

Zdon, Michael

Northbrook

Nahrwold, David

Oak Brook

Jensik, Robert

Oak Park

Baker, William

Park Ridge

Saletta, John

Peoria

Anderson, Richard
Bonello, Julius
Crawford, David
DeBord, James
Estes, Norman
Marshall, J. Stephen
Pearl, Richard
Stanfill, Amy

River Forest

Mason, G. Robert

Skokie

Frantzides, Constantine
Hieken, Tina
Velasco, Jose

Springfield

Alfrey, Edward
Birtch, Alan
Dunnington, Gary
Folse, J. Roland
Hassan, Imran
Hazelrigg, Stephen
McLafferty, Robert B.
Peralta, Elizabeth
Rakinic, Jan
Ramsey, Don
Sumner, David
Sutyak, John

Urbana

Aucar, John

Vernon Hills

Wesley, John

Western Springs

Thomas, Paul A.

Willow Brook

Silver, Geoffrey

Wilmette

Printen, Kenneth
Sherman, Joseph

GEOGRAPHICAL LISTING *(continued)*

Winnetka

Fry, Willard
Strauch, Gerald

Woodstock

Bryan, Douglas

Zion

Staren, Edgar

INDIANA

Carmel

Jolly, Walter

Evansville

Heimbürger, Irvin

Fort Wayne

Reed, Jr., Donald

Hobart

Galouzis, Tom Nicholas

Indianapolis

Billmire, Deborah
Broadie, Thomas
Canal, David
Cikrit, Dolores
Clare, Susan
Coleman, III, John
Dalsing, Michael
Engum, Scott
Falimirski, Mark
George, Virgilio
Grosfeld, Jay
Hayward, III, Thomas
Howard, Thomas
Ladd, Alan

Lemmon, Gary
Lillemo, Keith
Madura, James
Miskulin, Judiann
Munshi, Imtiaz
Nakeeb, Attila
Pitt, Henry
Pohlman, Timothy
Rescorla, Frederick
Sawchuk, Alan
Schmidt, Max
Selzer, Don
Simons, Clark
Touloukian, Christopher
West, Karen
Wiebke, Eric
Zyromski, Nicholas

Lafayette

McPherson, Richard C.
Rolley, Ronald

Monrovia

Bennett, James
Yaw, Peter

Valparaiso

Anderson, Raymond

West Lafayette

Lempke, Robert

IOWA

Davenport

Lohmuller, Joseph

GEOGRAPHICAL LISTING *(continued)*

Iowa City

Gurll, Nelson
Howe, James
Jochimsen, Peter
Katz, Daniel
Mason, Edward
Metcalf, Amanda
Rossi, Nicholas
Scott-Conner, Carol
Shilyansky, Joel
Shirazi, Siroos
Soper, Robert
Sugg, Sonia
Urdaneta, Luis
Weigel, Ronald

Keokuk

Caropreso, Philip

KANSAS

Kansas City

Jewell, William
Mammen, Joshua
Schloerb, Paul
Thomas, James

Lake Quivera

Hermreck, Arlo
Pierce, George

Mission Hills

Pinkerton, Jr., Joe

Prairie Village

Holder, Thomas
Thomas, Jr., Christopher

KENTUCKY

Covington

Wright, Creighton

Florence

Edwards, John D.

Lexington

Belin, Robert
Endean, Eric
Ferraris, Victor
Hagihara, Patrick
Ranjan, Dinesh
Sachatello, Charles
Schwarcz, Thomas

Louisville

Bergamini, Thomas
Cacchione, Robert
Cheadle, William G.
Gaar, Edwin
Galandiuk, Susan
Garrison, R. Neal
Harbrecht, Brian
Larson, Gerald
Martin, Robert
Marvin, Michael
McCafferty, Michael
McMasters, Kelly
Miller, Frank B.
Polk, Jr., Hiram
Richardson, J. David
Rodriguez, Jorge
Scoggins, Charles
Vitale, Gary
Wrightson, William

Prospect

Waterman, Norton

GEOGRAPHICAL LISTING *(continued)*

Somerset

Mays, E. Truman

LOUISIANA

New Orleans

Buell, Joseph
Margolin, David
Nichols, Ronald

Shreveport

McDonald, John

MAINE

Lewiston

Blondeau, Benoit

Rome

Tarnay, Thomas

MARYLAND

Baltimore

Park, Adrian

Bethesda

Drucker, William
Niederhuber, John
Rice, Charles

Cockeysville

Imbembo, Anthony

Nottingham

Geis, W. Peter

Rockville

Read, Raymond

MASSACHUSETTS

Boston

Becker, James
Ellis, Jr., F. Henry
Fernando, Hiran
Fischer, Josef E.
Hasselgren, Per-Olof
Hurst, James
Levitsky, Sidney

Burlington

Sillin, Lelan

Danvers

Narra, Vinod

Springfield

Patterson, Lisa

Topsfield

Hammond, George

Worcester

Bozorgzadeh, Adel
Fiddian-Green, Richard

MICHIGAN

Ada

Mason, James

Ann Arbor

Anderson, III, Harry
Arneson, Jr., Wallace
Bartlett, Robert H.
Brandt, Maggie
Breslin, Tara
Burney, Richard
Campbell, Darrell

GEOGRAPHICAL LISTING *(continued)*

Chang, Alfred
Cimmino, Vincent
Coran, Arnold
Gauger, Paul
Golladay, Eustace
Greenfield, Lazar
Hemmila, Mark
Henke, Peter
Hinshaw, Daniel
Hoshal, Jr., Verne
Kirsh, Marvin
Knol, James
Konnak, John
Kraft, Richard
Lindenauer, S. Martin
Magee, John
Merion, Robert
Mulholland, Michael
Orringer, Mark
Park, Pauline
Patel, Himanshu
Polley, Jr., Theodore
Prager, Richard
Punch, Jeffrey
Rectenwald, John
Sloan, Herbert
Stanley, James
Sung, Randall
Teitelbaum, Daniel
Thompson, Norman
Turcotte, Jeremiah
Wahl, Wendy
Wakefield, Thomas
Whitehouse, Jr., Walter
Wolk, Seth

Chelsea

Feller, Irving

Dearborn

Berkas, Ernest

Detroit

Baylor, Alfred
Diebel, Lawrence
Dulchavsky, Scott
Fromm, David
Gruber, Scott
Klein, Michael
Ledgerwood, Anna
Lelli, Jr., Joseph
Lucas, Charles
Mentzer, Jr., Robert
Phillips, Eduardo
Reddy, Daniel
Steffes, Christopher
Sugawa, Choichi
Tyburski, James
Velanovich, Vic
Weaver, Donald
White, Michael
Wilson, Robert

Drummond Island

Filo, Ronald

Frankfort

Griffen, Jr., Ward
Olsen, William

Grand Rapids

Mansour, M. Ashraf
Scheeres, David
Scholten, Donald
Taber, Rodman

GEOGRAPHICAL LISTING *(continued)*

Gross Pointe

Kelly, Alexander
Lloyd, Larry

Grosse Pointe Farms

Javid, Hushang

Kalamazoo

Swaniker, Fresca

Lansing

McLeod, Michael

Mears

Roseman, David

Pontiac

Silbergleit, Allen

Rochester Hills

Hinshaw, Keith

Royal Oak

Lucas, Robert
Shanley, Charles

Southfield

Bodzin, Jason Howard

Warren

Hans, Sachinder
Kosir, Mary

West Bloomfield

Elliott, Joseph

MINNESOTA

Duluth

Monge, James

Lake Park

Becker, William

Minneapolis

Abrams, Jerome
Acton, Robert
Al-Refaie, Waddah
Barke, Roderick
Beilman, Gregory
Buchwald, Henry
Delaney, John
Foker, John
Goodale, Robert
Hess, Donavon
Ikramuddin, Sayeed
Leonard, Arnold
Najarian, John
Ney, Arthur
Odland, Mark
Saltzman, Daniel
Shumway, Sara
Tuttle, Todd
Vickers, Selwyn
Ward, Herbert
Zera, Richard

Pine River

Miller, Fletcher

Rochester

Bernatz, Philip
Devine, Richard
Farnell, Michael
Grant, Clive
McIlrath, Donald C.

GEOGRAPHICAL LISTING *(continued)*

Nagorney, David
Sarr, Michael
Sterioff, Sylvester
Telander, Robert
Woods, John

St. Paul

Ahrenholz, David
La Fave, James
Mowlem, Albert
Rupp, William

MISSISSIPPI

Brandon

Timberlake, Gregory

Jackson

Helling, Thomas
Merrill, Walter

MISSOURI

Columbia

Barnes, Stephen
Curtis, Jack
Dale, Paul
Eubanks, Steve
Humphrey, Loren
Kessel, James
Miedema, Brent
Nichols, W. Kirt
Silver, Donald
Stephenson, Jr., Hugh
Walls, Joseph

Farmington

Oliver, George

Kansas City

Amoury, Raymond
Geehan, Douglas
Holcomb, III, George
Koontz, Jr., Paul
Kraybill, William
Talboy, Glenn
Van Way, III, Charles

Santa Genevieve

Hoye, Robert

St Louis

Anderson, Charles
Ayvazian, Vatche
Ballinger, Walter
Brunt, L Michael
Codd, John
Eberlein, Timothy
Ferguson, Tomas B.
Garvin, Paul
Johnson, Frank
Kaminski, Donald
King, Harold
Kodner, Ira
Matthews, Brent
Paletta, Francis
Philpott, Gordon
Shieber, William
Sicard, Gregorio
Stokes, James
Warner, Brad
Wells, Samuel

Webster Groves

Kaiser, George

GEOGRAPHICAL LISTING *(continued)*

NEBRASKA

Omaha

Carlson, Mark
Fitzgibbons, Jr., Robert
Forse, Armour
Hodgson, Paul
Mittal, Sumeet
Rose, Scott
Sasson, Aaron
Thompson, Jon

NEVADA

Glenbrook

Goldsmith, Harry

NEW JERSEY

New Brunswick

Mackenzie, James

Newark

Lazaro, Eric
Rush, Benjamin
Siegel, John

West Orange

Hill, George

NEW MEXICO

Albuquerque

Corson, John
Skibba, Joseph

Santa Fe

Schiller, William

NEW YORK

Albany

Bernard, Harvey
Conti, David
Leather, Robert
Shah, Dhiraj

Brainard

Root, Harlan

Bronx

Caushaj, Philip

Brooklyn

Wise, Leslie

Buffalo

Butsch, John
Coty, Michael
Cherr, Gregory
Dayton, Merril
Dryjski, Maciej
Dunn, David L.
Edge, Stephen
Evans, James T.
Flynn, Jr., William
Glick, Philip
Hassett, James
Kulaylat, Mahmoud
Peer, Richard
Wilkinson, Neal

Delmar

Lempert, Neil

Glen Cove

Flancbaum, Louis

GEOGRAPHICAL LISTING *(continued)*

Great Neck

Shons, Alan

Larchmont

Steichen, Felicien

New York City

Ackerman, Norman

Bessey, Palmer

Eisenberg, M. Michael

Enker, Warren

Green, Richard

Laufman, Harold

McKinsey, James

Michelassi, Fabrizio

Reilly, Jr., James

Wallack, Marc

Orchard Park

Upson, James

Rochester

Adams, James

Andrus, Carl H.

Bankey, Paul

DeWeese, James

Doerr, Ralph

Ettinghausen, Stephen

Gestring, Mark

Illig, Karl

Kashyap, Randeep

Krusch, David

Lanzafame, Raymond

Peacock, James

Pegoli, Jr., Walter

Peters, Jeffrey

Schoeniger, Luke

Schwartz, Seymour I.

Stewart, Scott

Staten Island

Coil, James

Syracuse

Clark, Jr., William

Hassan, Moustafa

Kittur, Dilip

Williamsville

Caruana, Joseph

Douglass, Jr., Harold

NORTH CAROLINA

Charlotte

Gersin, Keith

Lalka, Stephen

Durham

Mureebe, Leila

Shortell, Cynthia

Greenville

Cunningham, Paul

Pories, Walter

Winston-Salem

Stratta, Robert

NORTH DAKOTA

Grand Forks

Sauter, Edward

OHIO

Akron

Donovan, Duane

Guyton, Daniel

Lee, Jai Hoon

GEOGRAPHICAL LISTING *(continued)*

Paranjape, Charu

Williams, Gary

Beavercreek

Adebonojo, Samuel

Bellbrook

Martin, Lester W.

Bratenahl

Hermann, Robert

Chagrin Falls

Ankeney, Jay L.

Chardon

Khaitan, Leena

Cincinnati

Ahmad, Syed

Alexander, J. Wesley

Azizkhan, Richard

Bailey, J. Kevin

Bossert, John

Broderick, Timothy

Davis, Bradley

Davis, Kenneth

Donovan, James

Edwards, Michael

Falcone, Richard

Fegelman, Elliott

Fischer, David

Flege, Jr., John

Giglia, Joseph

Hafner, Charles

Heimlich, Henry

Helmsworth, James

Hiratzka, Loren

Hummel, Robert

Joffe, Stephen

Johannigman, Jay

Kagan, Richard

Kempczinski, Richard

Pritts, Timothy

Rafferty, Janice

Rudich, Steven

Ryckman, Frederick

Schreiber, J. Tracy

Shaughnessy, Elizabeth

Sheldon, Curtis

Smith, J. Michael

Solomkin, Joseph

Stevenson, Jean

Sussman, Jeffrey

Tevar, Amit

Tsuei, Betty

Vester, Samuel

Wulsin, John

Circleville

Evans, William E.

Cleveland

Aeder, Mark

Alexander, J. Jeffrey

Averbook, Bruce

Barksdale, Jr., Edward

Berber, Eren

Brandt, Christopher

Claridge, Jeffrey

Cmolik, Brian

Crowe, Joseph

Delaney, Conor

Difiore, John

Esselstyn, Caldwell

Fratianne, Richard

Grundfest, Sharon

Hardacre, Jeffrey

GEOGRAPHICAL LISTING *(continued)*

Henderson, J. Michael
Hull, Tracy
Kim, Julian
Lavery, Ian
Magnuson, David
Malangoni, Mark
Mansour, Edward
Marks, Jeffrey
McHenry, Christopher
Milas, Mira
Miller, Charles
Naylor, Douglas
O'Hara, Patrick
Onders, Raymond
Ponsky, Jeffrey
Remzi, Feza
Rosen, Michael
Rosenblatt, Steven
Sanabria, Juan
Schauer, Philip
Schulak, James
Shuck, Jerry
Siperstein, Allan
Stallion, Anthony
Steiger, Ezra
Stevenson, Jean
Vogel, Jon
Walsh, R. Matthew
Wilhelm, Scott
Yowler, Charles

Columbus

Arnold, Mark
Bloomston, Mark
Boles, Jr., E. Thomas
Bumgardner, Ginny
Caniano, Donna
Carson, III, William
Crestanello, Juan

Das, B. Mohan
Elkhammas, Elmahdi
Ellison, Christopher
Fabia, Renata
Falcone, Robert E.
Ferguson, Ronald M.
Gordillo, Gayle
Groner, Jonathan
Hazey, Jeffrey
Henry, Mitchell
Kenney, Brian
Lindsey, David
Martin, Jr., Edward
Meckstroth, Charles
Melvin, W. Scott
Michalsky, Marc
Mikami, Dean
Miller, Michael
Miller, Sidney
Moffatt-Bruce, Susan
Muscarella, Peter
Needleman, Bradley
Nwomeh, Benedict
Pelletier, Ronald
Rajab, Amer
Ruberg, Robert
Satiani, Bhagwan
Schmidt, Carl
Smead, William
Starr, Jean
Steinberg, Steven
Vaccaro, Patrick
Vermilion, Blair
Williams, Jr., Thomas E.
Yashon, David
Yee, Lisa

GEOGRAPHICAL LISTING *(continued)*

Dayton

Barney, Linda
Dunn, Margaret M.
Ekeh, A. Peter
McCarthy, Mary
Saxe, Jonathan
Tchorz, Kathryn
Termuhlen, Paula

East Cleveland

Ahmed, Naveed
Chung, Raphael

Galena

Berggren, Ronald

Greenville

Dutro, John Arthur

Grove City

Kilman, James

Middleburgh Heights

Plecha, Fred

Oregonia

Finley, Jr., Robert

Perrysburg

Thomford, Neil

Powell

Cooperman, Marc

Shaker Heights

Fazio, Victor
Graham, Linda M.

South Euclid

Stellato, Thomas

Sylvania

Sferra, Joseph

Toledo

Chaudhuri, Prabir
Jacobs, Lloyd
Merrick, III, Hollis Warren
Zelenock, Gerald

Youngstown

Kavic, Michael

OREGON

Portland

O'Brien, David
Rayhill, Stephen

PENNSYLVANIA

Abington

Weintraub, William

Danville

Strodel, William
Udekwu, Anthony

Downingtown

Russo, Pier Antonio

Erie

Dexter, David

Hershey

Kauffman, Jr., Gordon
Koltun, Walter
Poritz, Lisa

GEOGRAPHICAL LISTING *(continued)*

Reed, Amy
Reed, Michael
Smith, Jr., J. Stanley
Waldhausen, John

Lancaster

Conter, Robert

Philadelphia

Cooper, Joel
Fry, Robert D.
Jain, Ashok Kumar
Lewis, Frank
Murayama, Kenric
Rhodes, Robert

Pittsburgh

Bartlett, David
Basu, Amit
Billiar, Timothy
Carty, Sally
Cobb, Charles
Courcoulas, Anita
Donaldson, William
Farkas, Linda
Jarrett, Fredric
Jones, Larry
Kane, Timothy
Landreneau, Rodney
Lee, Kenneth K.W.
Magovern, George
Marsh, James
McCloskey, Carol
Moorman, Donald
Peitzman, Andrew
Pettiford, Brian
Rams, James
Schraut, Wolfgang
Sell, Jr., Harry

Shapiro, Ron
Simmons, Richard
Smith, R. Stephen
Starzl, Thomas
Tan, Henkie
Webster, Marshall

Saxonburg

Stremple, John

Sayre

Meyer, Kenneth

Verona

Sieber, William

Wyndmoor

Kahng, Kim U.

RHODE ISLAND

Portsmouth

Cloutier, Jr., Charles

Providence

Espat, N. Joseph
Hopkins, Robert
Sax, Harry

SOUTH CAROLINA

Columbia

Almond, Carl

Greenville

Gauderer, Michael

GEOGRAPHICAL LISTING *(continued)*

Hilton Head Island

Cerilli, G. James
Humphrey, Edward W.
Poticha, Stuart
Wolf, James

North Charleston

Freeman, Joel

TENNESSEE

Jonesborough

Bryant, Lester

Nashville

Smith, Roger
Solorzano, Carmen

TEXAS

Austin

Erlandson, Errol
Lowery, Brian

Dallas

Arenas, Juan
Nikaidoh, Hisashi

El Paso

Saltzstein, Edward

Houston

Wesson, David

Montgomery

Jones, James

Temple

Cooney, Donald
Lairmore, Terry

Tyler

Keitzer, Walter

UTAH

Salt Lake City

Warden, Glenn

VERMONT

Burlington

Davis, John H.
Taheri, Paul

VIRGINIA

Arlington

Mayes, James Thomas

Charlottesville

Hallowell, Peter
Upchurch, Jr., Gilbert

McLean

Wallace, Robert B.

Norfolk

Lind, James

Richmond

Maher, James

Roanoke

Haley, Harold

GEOGRAPHICAL LISTING *(continued)*

Winchester

Lynn, Hugh

WASHINGTON

Bellevue

Jordan, Jr., Prescott

Clyde Hill

Condon, Robert

Moses Lake

Martin, Louis F.

WEST VIRGINIA

Charleston

Aburahma, Ali

Boland, James

Huntington

Harrah, John

Morgantown

Hrabovsky, Ellen

WISCONSIN

Brookfield

Aprahamian, Charles

LaCrosse

Chapman, Scott

Cogbill, Thomas

Skemp, Joseph

Madison

Bernhardt, Louis

Chen, Herbert

D'Alessandro, Anthony

Faucher, Lee

Foley, David

Foley, Eugene

Garren, Michael

Gould, Jon

Harms, Bruce

Heise, Charles

Hoch, II, John

Kennedy, Gregory

Kent, K. Craig

Lund, Dennis

Mack, Eberhard

Matsumura, Jon

Melnick, David

Rikkers, Layton

Shaaban, Aimen

Sollinger, Hans

Starling, James

Storm, F. Kristian

Tefera, Girma

Toth, Susan

Turnipseed, William

Vega, Roland

Weber, Sharon

Milwaukee

Brown, Kellie

Evans, Douglas

Johnson, Christopher

Ludwig, Kirk

Oldham, Keith

Otterson, Mary

Pappas, Sam

Roza, Allan

Sato, Thomas

Scher, Kenneth

Schulte, William

Seabrook, Gary

GEOGRAPHICAL LISTING *(continued)*

Telford, Gordon
Wagner, Marvin
Walker, Alonzo
Wallace, James R.
Wang, Tracy
Weigelt, John
Wilson, Stuart
Yen, Tina

Shorewood

Guice, Karen

PAST OFFICERS

PRESIDENT

Roy D. McClure*	1940-1941
Grover C. Penberthy*	1941-1942
Roscoe R. Graham*	1942-1946
Casper F. Hegner*	1946-1947
George M. Curtis*	1947-1948
Henry K. Ransom*	1948-1949
J. Dewey Bisgard*	1949-1950
Walter G. Maddock*	1950-1951
B. Noland Carter*	1951-1952
R. Kennedy Gilchrist*	1952-1953
James T. Priestley*	1953-1954
Leon J. Leahy*	1954-1955
Rudolf J. Noer	1955-1956
Robert M. Zollinger*	1956-1957
Hilger P. Jenkins*	1957-1958
William A. Altemeier*	1958-1959
Charles D. Branch*	1959-1960
Robert T. Tidrick*	1960-1961
Chester B. McVay*	1961-1962
Angus D. McLachlin*	1962-1963
Samuel P. Harbison*	1963-1964
Edward S. Judd*	1964-1965
Carl E. Lischer*	1965-1966
D. Emerick Szilagyi*	1966-1967
Fraser N. Gurd*	1967-1968
Edwin H. Ellison*	1968-1969
E. Lee Strohl*	1969-1970
Stanley O. Hoerr*	1969-1970
Vallee L. Willman*	1971-1972
John M. Beal	1972-1973
Charles L. Eckert*	1973-1974
William J. Fry	1974-1975
Robert A. Mustard*	1975-1976
Charles A. Hubay*	1976-1977
Alexander J. Walt*	1977-1978
Robert E. Condon	1978-1979

* Deceased

PAST OFFICERS *(continued)*

John E. Jesseph*	1979-1980
Robert J. Freeark*	1980-1981
Seymour I. Schwartz	1981-1982
Lloyd D. MacLean	1982-1983
Ward O. Griffen, Jr.	1983-1984
Lloyd M. Nyhus	1984-1985
George E. Block*	1985-1986
Larry C. Carey	1986-1987
Daniel W. Elliott	1987-1988
Robert J. Baker	1988-1989
Jay L. Grosfeld	1989-1990
Jeremiah G. Turcotte	1990-1991
Donald Silver	1991-1992
Jack R. Pickleman	1992-1993
Folkert Belzer*	1993-1994
Roger G. Keith	1994-1995
J. Roland Folse	1995-1996
Jerry M. Shuck	1996-1997
Henry Buchwald	1997-1998
David Nahrwold	1998-1999
Josef Fischer	1999-2000
David Mulder	2000-2001
William Baker	2001-2002
Jonathan B. Towne	2002-2003
Layton F. Ridders	2003-2004
Mark A. Malangoni	2004-2005
Fabrizio Michelassi	2005-2006
Thomas Stellato	2006-2007
E. Christopher Ellison	2007-2008
Richard H. Bell	2008-2009
William Turnipseed	2009-2010
Michael S. Nussbaum	2010-2011

SECRETARY

George M. Curtis*	1940-1946
Walter G. Maddock*	1946-1949

* Deceased

PAST OFFICERS *(continued)*

James T. Priestley*	1949-1952
Robert M. Zollinger*	1952-1955
Charles D. Branch*	1955-1958
Angus D. McLachlin*	1958-1961
Carl Lischer*	1961-1964
Edwin H. Ellison*	1964-1967
Vallee L. Willman*	1967-1970
William J. Fry	1970-1973
Alexandar J. Walt*	1973-1976
Robert J. Freeark*	1976-1979
Ward O. Griffen, Jr.	1979-1982
Larry C. Carey	1982-1985
Jay L. Grosfeld	1985-1988
Jack R. Pickleman	1988-1991
J. Roland Folse	1991-1994
David J. Nahrwold	1994-1997
William H. Baker	1997-2000
Fabrizio Michelassi	2000-2003
E. Christopher Ellison	2003-2006
Michael S. Nussbaum	2006-2009
Nathaniel Soper	2009-2012

TREASURER

Charles H. Hubay*	1972-1975
John E. Jesseph*	1975-1978
Robert P. Hummell	1978-1981
Robert J. Baker	1981-1984
Donald Silver	1984-1987
Jerry M. Shuck	1987-1990
Henry Buchwald	1990-1993
Josef E. Fischer	1993-1996
Layton F. Ridders	1996-1999
Thomas A. Stellato	1999-2002
Carol EH Scott-Conner	2002-2005
William Turnipseed	2005-2008
Christopher McHenry	2008-2011

* Deceased

PAST OFFICERS *(continued)*

RECORDER

Robert E. Condon.....	1972-1977
John J. Bergan.....	1977-1982
Jeremiah G. Turcotte.....	1982-1987
Gordon L. Hyde.....	1987-1992
Jonathan Towne.....	1992-1997
Mark Malangoni.....	1997-2002
Richard H. Bell, Jr.....	2002-2007
Gerald Larson.....	2007-2011

REPRESENTATIVE TO THE AMERICAN BOARD OF SURGERY

Lloyd M. Nyhus.....	1973-1977
William J. Fry.....	1977-1982
John S. Najarian.....	1982-1988
Jeremiah G. Turcotte.....	1982-1988
Olga Jonasson.....	1988-1994
Richard A. Prinz.....	1994-2000
Michael S. Nussbaum.....	2000-2006
Fabrizio Michelassi.....	2006-2012

REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS ADVISORY COUNCIL ON SURGERY

Daniel W. Elliott.....	1982-1985
Jay L. Grosfeld.....	1989-1994
Josef E. Fischer.....	1994-2001
Mark Malangoni.....	2001-2007
E. Christopher Ellison.....	2007-2013

* Deceased

PAST OFFICERS *(continued)*

REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS BOARD OF GOVERNORS

Ward O. Griffen, Jr.	1969-1972
	1972-1975
Melvin A. Block	1975-1978
	1978-1981
John L. Glover	1981-1984
Robert E. Condon	1987-1990
	1990-1993
Donald Silver	1993-1996
	1996-1999
Henry Buchwald	1999-2002
	2002-2005
Layton Ridders	2005-2011

COUNCILORS

Earl B. Smith	1981-1984
Lloyd D. MacLean	1983-1984
Jay L. Grosfeld	1982-1985
Ward O. Griffen, Jr.	1984-1985
Peter Cruse	1983-1986
Folkert O. Belzer*	1984-1987
Lloyd M. Nyhus	1986-1987
Marshall W. Webster	1985-1988
George E. Block*	1987-1988
Larry C. Carey	1987-1988
Marcel J. Rheault	1986-1989
Dan W. Elliott	1988-1989
Robert J. Baker	1989-1990
Frederic E. Eckhauser	1988-1991
Jay L. Grosfeld	1990-1991
Roger G. Keith	1989-1992
Jeremiah G. Turcotte	1991-1992

PAST OFFICERS *(continued)*

Josef E. Fischer	1990-1993
Donald Silver	1992-1993
James S.T. Yao	1991-1994
Jack R. Pickleman	1993-1994
David S. Mulder	1992-1995
Layton F. Rikkers	1993-1996
Roger G. Keith	1995-1996
Mark A. Malangoni	1994-1997
Bruce L. Gewertz	1995-1998
Jerry Shuck	1997-1998
Marvin Wexler	1996-1999
Frank R. Lewis	1997-2000
Henry Buchwald	1998-1999
David Nahrwold	1999-2000
James Madura	1998-2001
Josef Fischer	2000-2001
David Mulder	2001-2002
Gary Dunnington	1999-2002
Robert Bower	2000-2003
William H. Baker	2002-2003
James Starling	2001-2004
Darrell A. Campbell, Jr.	2002-2005
Layton F. Rikkers	2004-2005
Rene Lafreniere	2003-2006
Mark Adams*	2004-2007
Mark Malangoni	2005-2006
Christopher McHenry	2005-2008
Fabrizio Michelassi	2006-2007
Mary Otterson	2006-2009
Thomas Stellato	2007-2008
Keith Lillemoe	2007-2010
E. Christopher Ellison	2008-2009
Gerald Fried	2008-2011
Richard Bell, Jr.	2009-2010
Fred Luchette	2010-2011
William Turnipseed	2010-2011
Wendy Wahl	2009-2012

CONSTITUTION & BYLAWS

RESOLUTION

In view of the desirability of a Surgical Association embracing within its membership surgeons of the central portion of the United States and of the adjacent Canadian provinces, BE IT RESOLVED that such an association be organized by a self-appointed committee of Founders composed of the undersigned forty (40) Fellows of the American Surgical Association; who, at their first meeting, shall (1) elect from their number a President and a President-Elect, each to serve one year; a Secretary to serve a three year term; a Treasurer and a Recorder, each to serve a five year term; and three Councilors each to serve a three year term. The immediate Past President will serve as the fourth Councilor, to serve for one year. The Executive Council will also select members to represent the Association at the American Board of Surgery for a six year term, at the Board of Governors of the American College of Surgeons for a renewable three year term, and at the Advisory Council for Surgery of the American College of Surgeons for a six year term; (2) draw up a suitable Constitution and Bylaws; and (3) invite not more than sixty (60) additional qualified surgeons to become Founder members.

CONSTITUTION

Article I: Name

This society shall be called THE CENTRAL SURGICAL ASSOCIATION.

Article II: Object

The object of this Association shall be to further the practice of Surgery in its various departments, and the study and investigation of surgical problems.

Article III: Membership

SECTION 1:

The Central Surgical Association shall consist of active, senior, non-resident and honorary members (as amended 1977).

SECTION 2:

The number of active members shall be limited to two hundred fifty (250) (as amended 1948, 1970, 1997).

CONSTITUTION & BYLAWS *(continued)*

SECTION 3:

Senior members shall be founders, founder members or active members in good standing who have reached the age of fifty (50) years, or who have been elected to fellowship in the American Surgical Association, or in one of the other senior societies as determined by the Council. They shall have all the privileges of active members. Senior members shall not be bound by the requirement for attendance at meetings. Upon reaching the age of sixty-five (65), senior members will be relieved of responsibility for paying dues (as amended 1949, 1970, 1977, 1984).

SECTION 4:

Retired members shall be those who, having been elected to active or senior membership who have retired from the active practice of surgery. Retired members shall not be bound by the requirement for attendance at meetings and will be relieved of responsibility for paying dues (as amended 2003)

SECTION: 5:

Non-resident members shall be those who, having been elected to active or senior membership while a resident within the geographic area accepted by the Council as that of the Central Surgical Association, move elsewhere. Non-resident members shall pay dues and shall have all the privileges of active members but shall be relieved of the requirement of attendance at meetings and shall not hold office (as amended 1977).

SECTION 6:

Each candidate for membership must be sponsored by an active or senior member and endorsed by two other active or senior members. To be eligible for membership each candidate must be certified by the American Board of Surgery or equivalent board or a Fellow of the American College of Surgeons. The Membership Committee must pass on the merits of professional and ethical qualifications of all candidates. The names of the candidates and recommendation of the Membership Committee are submitted to the Council at least one month before the annual meeting. In special circumstances, Council may waive the requirement of certification by the American Board of Surgery or equivalent board or membership in the American College of Surgeons upon recommendation of the Membership Committee by a two-thirds

CONSTITUTION & BYLAWS *(continued)*

affirmative vote. Names of those surgeons approved by the Council and proposed for election to membership shall be submitted by the Secretary in his/her report at the executive session of the Annual meeting (as amended 1973). If an application fails to be approved for election for three successive years, a new application will be required, but will not be considered until after a minimum of twelve months has elapsed (as amended 1976, 2004).

SECTION 7:

The number of honorary members shall be limited to ten (10). Proposals for active or honorary membership shall be made in writing to the Council on blanks furnished by the Secretary of the Association, and signed by three members from the active or senior groups.

SECTION 8:

Each candidate for membership must be sponsored by an active or senior member and endorsed by two other active or senior members. The Membership Committee must pass upon the merits of professional and ethical qualifications of all candidates. The names of the candidates and the recommendations of the Membership Committee are submitted to the Council at least one month before the Annual Meeting. Names of those surgeons approved by the Council and proposed for election to membership shall be submitted by the Secretary in his/her report at the executive session of the Annual Meeting (as amended 1973). If an application fails to be approved for election for three successive years, a new application will be required but will not be considered until after a minimum of twelve months has elapsed (as amended 1976).

SECTION 9:

At least four (4) months shall elapse between the proposal of a candidate for election to membership and balloting on his/her candidacy (as amended 1968).

SECTION 10:

Following preliminary recommendations by the Council, election to membership shall be determined by ballot of those present at the annual executive meeting of the Association. Favorable ballots to the extent of 75 percent of those cast shall elect. An individual properly proposed

CONSTITUTION & BYLAWS *(continued)*

for membership and failing to receive election by ballot at three consecutive Annual Meetings shall not be eligible for a second proposal for membership until one year has elapsed from the time of the last Annual Meeting at which the candidate was considered for membership.

Candidates who have received sufficient ballots for election to membership shall attend the next Annual Meeting of the Association unless excused by the Council. At that annual business meeting, each candidate will be introduced to the Association and presented with the Certificate of Membership. Candidates unable to attend the annual meeting shall be mailed the Certificate of Membership and shall forego the privilege of formal introduction to the Association. (as amended 1974, 1975, 1991, 2007).

SECTION 11:

The qualifications for active or honorary membership should include:

(a) Certification by the American Board of one of the surgical specialties or by Fellowship in or certification by one of the Royal Colleges or by the American College of Surgeons.

(b) Evidence of participation in activities which have a concern for the welfare of patients and the fostering of the advancement of surgical theory and practice (as amended 1974).

SECTION 12:

Resignations of members may be acted upon at any annual executive meeting and may be accepted by a majority vote of the members present, providing the member resigning is not in arrears.

SECTION 13:

Any member may be expelled for unprofessional or unethical conduct by vote of the Council. Charges of such conduct must be preferred and signed by three members before their consideration by the Council, whose action thereon must take place within one year thereafter.

In case the vote of the Council is not decisive, the charges may be dropped by the Council or presented by the Secretary to the Association for action in executive session at which time a three-fourths vote of the members present shall be required for expulsion.

CONSTITUTION & BYLAWS *(continued)*

SECTION 14:

Any active member who shall have absented him/herself from three (3) consecutive Annual Meetings without acceptable explanation in writing to the Secretary may be dropped from membership in the Association on vote of the Council. His/Her membership may be reinstated by vote of the Council.

Article IV: Officers

SECTION 1:

The officers of the Association shall consist of a President, a President-Elect, a Secretary, a Treasurer, and a Recorder. These five, together with three Councilors and a Website Manager elected at large and the immediate past President, shall constitute the Council. Each Councilor and the Website Manager shall serve for three years. A member at large shall be elected annually to replace the outgoing Councilor. Any past President, upon invitation of the President, may be enrolled as a temporary member of the Council to fill a vacancy (as amended 1974).

SECTION 2:

The officers, including the members of the Council, shall be nominated by a committee of five (5) members. The Committee shall be composed of the three (3) immediate Past Presidents and two (2) members appointed by the President. The President shall appoint the Chairman (as amended 1989).

SECTION 3:

The election of officers shall take place at the executive sessions of each Annual Meeting. A majority of the votes cast shall constitute an election.

SECTION 4:

Any vacancy occurring during the year among the officers of the Association shall be filled by Council.

Article V: Committees

SECTION 1:

The President shall appoint a Local Committee for Arrangements for the Annual Meeting (as amended 1968).

CONSTITUTION & BYLAWS *(continued)*

SECTION 2:

There shall be a Program Committee of six members, two appointed annually by the President with the approval of Council, and each to serve three years. Annually, one senior member of the committee is selected by the President in conjunction with Council to act as Chairman of the Committee. The Recorder and the Secretary shall be members of this committee ex-officio. The Program Committee shall select and arrange papers for the Annual Meeting. The Secretary shall employ a competent stenographer to report all discussions of the papers presented before the Association and to assist in keeping the minutes (as amended 1968, 1973, and 1984).

SECTION 3:

The Council shall be empowered to select and edit papers read at the Annual Meeting for publication in a surgical journal or inclusion in a Volume of Transactions, if issued. The Council may delegate this power to the Recorder.

SECTION 4:

There shall be a Membership Committee of nine members, three appointed annually by the President with the approval of Council and with attention to regional representation. Each appointee will serve three years. The Chairman is selected by the President with Council approval. The Chairman will serve a term of three years. The Secretary shall be a member of the Membership Committee ex-officio. The Membership Committee will carefully evaluate all candidates for membership. The Committee shall convene prior to the Annual Meeting and prepare a list of recommended candidates for membership. This list will then be submitted to the Council for review. The Council then prepares the final approved list to be submitted by the Secretary at the executive session of the Annual Meeting (as adopted 1973, as amended 2004).

BYLAWS

Section I: Meetings

The Association shall meet each year at a time and place designated by vote of the Association at the previous Annual Meeting, following recommendations of the Council and approved by the members of the Association. If change in the time and place becomes necessary between meetings of the Association, the change may be made by the Council. The meeting shall continue for not longer than three (3) days (as amended 1968).

Section II: Quorum

For transaction of ordinary business, the members present at any meeting shall constitute a quorum. To effect changes in the Constitution and Bylaws, for assessments, appropriations or expenditures of money other than those required in the routine business of the Association, for election of officers and members, or for the expulsion of a member, a minimum of one hundred (100) members shall be required to form a quorum (as amended 1974).

Section III: Duties of Officers

1. President and President-Elect: The President shall preside at the meetings of the Association, preserve order, regulate debates, sign certificates of membership, appoint committees not otherwise provided for, announce results of elections, and perform all other duties legitimately appertaining to his/her office. The President shall prepare an address for the Annual Meeting. In his/her absence, the President-Elect shall preside. In the absence of both, the chair shall be taken by a member elected by those of the Council who are present.

The President-Elect shall substitute for the President as provided above.

No President shall serve for more than one year in that office. The immediate Past-President shall serve for one year on the Council.

2. Secretary: The Secretary shall keep the minutes of the Association and shall issue, at least four weeks prior to the Annual Meeting, a program specifying the time and place of the meeting. The Secretary shall also issue a list of the

CONSTITUTION & BYLAWS *(continued)*

candidates for proposed membership. The Secretary shall attest all official acts requiring certification, notify officers and members of their election, keep in his/her custody the Seal of the Association and affix it to all documents and papers as the Association may direct, and take charge of all papers not otherwise provided for. He/She shall serve as Secretary and keep minutes of the meetings of the Council and compile a written report to be read at the executive session of the Association to include the recommendation for place of Annual Meeting and the list of candidates proposed for membership, as approved by Council.

3. Treasurer: It shall be the duty of the Treasurer to receive all monies and funds belonging to the Association. The Treasurer shall pay all bills against the Association and shall render all bills for dues and assessments at the conclusion of each meeting, as promptly as possible. A report shall be presented to the Council at each Annual Meeting which includes the names of all members in arrears. The Treasurer shall present an annual account for audit.

4. Recorder: The Recorder shall receive all papers and reports of discussions on papers presented to the Association and shall determine their worthiness for publication. The Recorder shall also be the custodian of the permanent records of the Association (as amended 1968)

5. Council: The Council shall consist of three (3) Councilors elected from the membership at large, together with the President, President-Elect, Secretary, Treasurer, Recorder, Website Manager and immediate Past President. The term of service of the Councilors elected at large and the Website Manager shall be three years. At the annual executive meeting one Councilor shall be elected to take the place of the Councilor whose term expires.

The Website Manager shall maintain and update the Association's internet website. The Website Manager shall assist the council in their utilization of the website and advise the Council on the need for major upgrades or changes to the website. The Website manager shall be a nonvoting member of the Council, nominated by the President for a three-year renewable term of service.

CONSTITUTION & BYLAWS *(continued)*

The Council shall be the executive body of the Association. Its stated meetings shall be held at the call of the President and a majority of its members shall constitute a quorum.

The President of the Association shall be Chairman and the Secretary of the Association shall be Secretary of the Council and keep minutes of its proceedings.

Section IV: Committee on Arrangements for Annual Meeting

The Local Committee on Arrangements for the Annual Meeting shall consist of members appointed by the President, acting together with the President, President-Elect, Secretary and Recorder ex-officio. The duties of this Committee shall be the preparation of the general arrangements for the Annual Meeting.

Section V: Papers and Reports

All papers and reports read before the Association shall be delivered to the Recorder at the time of their presentation. No paper shall be published in the Transactions or as emanating from the Association which has not been read in full before the Association or presented by Title, nor elsewhere reported unless full credit is given to the Association.

Section VI: Initiation Fee

Every active member shall, within thirty (30) days after notice of election, pay an initiation fee which includes his/her dues for that year, and by which act he/she acknowledges and accepts the Constitution and Bylaws of the Association (as amended 1952, 1976, 1980).

Section VII: Annual Dues

There shall be an annual assessment on active and senior members as proposed by the Council (as amended 1952, 1976, 1980).

Section VIII: Arrearage of Members

It shall be the duty of the Treasurer to notify in writing any member in arrears for one year. After having notified the member by registered mail containing a copy of this section and not having received his/her dues within two months thereafter, it shall be the duty of the Treasurer to notify the Council of such arrearage, which fact shall be entered on

the minutes. If reasonable explanation or payment is not forthcoming within one year thereafter, the member's name may be stricken from the list. The Council may reinstate the member after payment of arrears.

Section IX: Invited Guests

Any member may invite guests to a meeting of the Association. The names of all guests shall be entered under a separate head in the list of those attending the meeting. The President may invite guests to participate in the discussion. All guests shall withdraw from the executive session.

Section X: Certificates of Membership

Every member shall be entitled to a certificate of membership signed by the President and the Secretary and bearing the Seal of the Association.

Section XI: Order of Business

ANNUAL MEETING

1. Call to order
2. Announcements from the Chairperson of the Local Committee on arrangements
3. Announcements from Secretary
4. Announcements from Recorder
5. Reading of scientific papers and presentations

BUSINESS MEETING

1. Call to order
2. Introduction of new members
3. Report of the Recorder
4. Report of the Treasurer
5. Report of the Auditing Committee
6. Report of the Secretary
7. Report of the Membership Advisory Committee Chairperson
8. Report of the Program Committee Chairperson
9. Results of the Election of New Members
10. Report of the Society Representative to the American Board of Surgery
11. Report of the Society Representative to the Board of Governors of the American College of Surgeons

CONSTITUTION & BYLAWS *(continued)*

12. Report of the Society Representative to the Advisory Council for Surgery of the American College of Surgeons
13. Report of the Executor of the Central Surgical Association Foundation
14. Future Meetings
15. Report of the Local Arrangements Committee for next year's Annual Meeting
16. Appointment of new committee members for the following year: Membership Advisory Committee, Program Committee, Nominating Committee and Auditing Committee
17. Old business/New business
18. Report of the Nominating Committee
19. Passing of the Gavel
20. Adjournment (revised 2002)

Section XII: Rules of Order

The proceedings of the Association shall be conducted under the local parliamentary rules of order.

Section XIII: Alteration in the Constitution and Bylaws

No part of the Constitution or Bylaws shall be amended, altered or repealed except at an executive session of a regular Annual Meeting. The suggested amendment, alteration or repeal in the Constitution or Bylaws shall have been presented in writing at a previous Annual Meeting, signed by three (3) members and delivered to the Secretary. The adoption of a suggested amendment, alteration or repeal shall be by the vote of three-fourths (3/4) of the members present.

Revised March 2007

CSA FOUNDATION BOARD OF DIRECTORS AND COMMITTEE MEMBERS 2010-2011

OFFICERS

Thomas A. Stellato, MD.....	President
E. Christopher Ellison, MD.....	1st Vice-President
Richard H. Bell, Jr., MD.....	2nd Vice-President
Layton F. Ridders, MD.....	Secretary and Executor
William D. Turnipseed, MD.....	Treasurer

BOARD MEMBERS AT LARGE

Anna M. Ledgerwood, MD

Roland J. Vega, MD

Richard A. Prinz, MD

David M. Mahvi, MD

Ex-Officio Members

Michael S. Nussbaum, MD, President CSA

Nathaniel J. Soper, MD, Secretary CSA

AWARDS COMMITTEE

E. Christopher Ellison, MD.....	1st Vice-President, Chair
Richard H. Bell, Jr., MD.....	2nd Vice-President
Thomas A. Stellato, MD.....	President
John C. Alverdy, MD.....	Member
Jon C. Gould, MD.....	Member
Jeffrey B. Mathews, MD.....	Member

DEVELOPMENT COMMITTEE

Thomas A. Stellato, MD.....	President, Chair
E. Christopher Ellison, MD.....	1st Vice-President
Richard H. Bell, Jr., MD.....	2nd Vice-President
Richard C. Anderson, MD.....	Member
Keith D. Lillemoe, MD.....	Member
Anthony J. Senagore, MD.....	Member

CSA FOUNDATION BOARD OF DIRECTORS AND COMMITTEE MEMBERS 2010-2011 *(continued)*

AUDIT COMMITTEE

Tara M. Breslin, MD

Merril T. Dayton, MD

Steven A. De Jong, MD

INVESTMENT COMMITTEE

Richard H. Bell, Jr., MD 2nd Vice-President, Chair

Thomas A. Stellato, MD President

E. Christopher Ellison, MD 1st Vice-President

Steve Eubanks, MD Member

FOUNDATION CONTRIBUTORS

(FOR CONTRIBUTIONS RECEIVED THROUGH DECEMBER 31, 2010)

FOUNDERS TABLE

*Total Contributions or Pledge over
\$10,000
(Gold Ribbon)*

Christopher Ellison
Anna M. Ledgerwood
Charles E. Lucas

PRESIDENTS CIRCLE

*Total Contributions or Pledge over
\$5,000 (Presidents Circle Pin and
Gold Ribbon)*

William H. Baker
Robert J. Baker
Richard H. Bell
James R. DeBord
Norman C. Estes
J. Roland Folse
Jay L. Grosfeld
Roger Keith
Mark Malangoni
Fabrizio Michelassi
David S. Mulder
David L. Nahrwold
Michael Nussbaum
Jack Pickleman
Layton F. Ridders
Thomas A. Stellato
Jeremiah G. Turcotte

PATRONS

*Total Contributions of \$1000-\$4999
(Blue Ribbon)*

James T. Adams
Gerard V. Aranha
Wallace A. Arneson, Jr.
Adel Bozorgzadeh
L. Michael Brunt
Henry Buchwald
John L. Butsch
Dolores F. Cikrit
John J. Coleman, III
Robert E. Condon
Anita P. Courcoulas
Thomas H. Covey
Anthony M. D'Alessandro
Michael C. Dalsing
Lillian G. Dawes
Duane L. Donovan
Scott A. Engum
Josef E. Fischer
Frank A. Folk
Gerald M. Fried
Susan Galandiuk
Tom N. Galouzis
Richard L. Gamelli
R. Neal Garrison
Bruce L. Gewertz
Lazar J. Greenfield
Paul E. Hodgson
James L. Hoehn
Verne L. Hoshal, Jr.
Thomas J. Howard
Ray J. Joehl
Stephen N. Joffe

FOUNDATION CONTRIBUTORS *(cont.)*

Richard J. Kagan
Michael D. Klein
Gerald M. Larson
Ian C. Lavery
Frank R. Lewis
Keith D. Lillemoe
Robert J. Lucas
Fred Luchette
Lloyd D. Mac Lean
James A. Madura
Edward E. Mason
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CSA FOUNDATION SURGICAL ENRICHMENT AWARDS

1995-2008

1995 - Frank E. Johnson, M.D.

St. Louis University

International Traveling Scholarship in Health Outcomes Research

1996 - Scott A. Dulchavsky, M.D.

Wayne State University

Renal Apoptosis During Ischemia Reperfusion Injury

1997 - Peter Angelos, M.D.

Northwestern University

Sponsor: Raymond J. Joehl, M.D.

The Teaching of Ethics in Surgical Training: The Development of a Curriculum

1997 - Scott A. Engum, M.D.

Indiana University

Sponsor: Jay L. Grosfield, M.D.

Experimental Assessment of Small Intestinal Sub mucosa as a Prosthetic Diaphragm Substitute in a Growing Animal Model

1998 - Randall S. Sung, M.D.

University of Michigan

Sponsor: Jonathan S. Bromberg, M.D.

Cytokine Inhibition in Adenovirus-Mediated Gene Transfer

1999 - Jeffrey J. Sussman

University of Cincinnati

Sponsor: Josef E. Fischer, M.D.

Modulation of Type 1/Type 2 Tumor Immune Responses to Improve Adoptive Immunotherapy

2000 - Henry J. Schiller, M.D.

SUNY Upstate Medical University

Sponsor: Frederick B. Parker, M.D.

Alveolar Mechanics and Ventilator Induced Lung Injury

CSA FOUNDATION SURGICAL ENRICHMENT AWARDS *(continued)*

2001 - Tina R. Desai, M.D.

University of Chicago

Sponsor: Bruce L. Gewertz, M.D.

The Role of IL-6 Hypoxic Endothelial

Barrier Dysfunction

2002 - Christian M. Schmidt, M.D.

Indiana University

Sponsor: James Madura, M.D.

Role of Cyclooxygenase-2 in Human and Pancreatic Experimental

Tumorigenesis

2003 - Hank C. Hill, M.D.

Roswell Park Cancer Institute

Sponsor: Boris W. Kuvshinoff II, M.D.

Neoadjuvant Tumor Immunotherapy in a Surgical Metastasis Model

2004 - Mark R. Hemmila, M.D.

University of Michigan

Sponsor: Darrell A. Campbell, Jr., M.D.

Trauma Care Quality Improvement

2005 - Andy C. Chiou, M.D.

University of Illinois

Sponsor: James R. De Bord, M.D.

Surgical Resident Rotation in the Office of Human Research Oversight's

Institutional Review Board

2006 - Katharine Yao, M.D.

Loyola University Medical Center

TraumaList and LoyolaList: A Pilot Project to Improve "Hand Off" Communications and Workflow Efficiency

CSA FOUNDATION SURGICAL ENRICHMENT AWARDS *(continued)*

2007 - Charles P. Heise, M.D.

University of Wisconsin-Madison

Salmonella Mediated Type III Secretion of Interleukin-10 for Prevention of Th2 Mediated Inflammatory Bowel Disease

2008 - Clifford S. Cho, M.D.

University of Wisconsin – Madison

Experimental Manipulation of Melanoma-Induced Immune Suppression

2009 - David J. Bentrem, M.D.

Northwestern University

Study of 5-Lipoxygenase, an Arachidonic Acid Pathway Enzyme, in Colon Cancer

2010 - David P. Foley, M.D.

University of Wisconsin – Madison

Determining the Role of Nrf2 in a Murine Model of Hepatic Ischemia Reperfusion Injury

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1941 – Ann Arbor	1980 – St. Louis
1942 - Chicago	1981 – Dearborn
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1946 - Chicago	1983 – Milwaukee
1947 - Chicago	1984 - Pittsburgh
1948 - Chicago	1985 – Montreal
1949 - Cleveland	1986 – Chicago
1950 - Chicago	1987 - Louisville
1951 - Chicago	1988 - Columbus
1952 - Toronto	1989 – Alberta
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1954 - Detroit	1991 - Indianapolis
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1956 - Rochester	1993 - Cincinnati
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1960 - Chicago	1997 - Chicago
1961 – St. Louis	1998 – Ann Arbor
1962 - Cincinnati	1999 - St. Louis
1963 - Chicago	2000 - Chicago
1964 – Rochester, MN	2001 - Tucson
1965 - Milwaukee	2002 - Pittsburgh
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1968 - Cleveland	2005 – Tucson
1969 - Chicago	2006 – Louisville
1970 - Detroit	2007- Chicago
1971 - Minneapolis	2008 - Cincinnati
1972 - Chicago	2009 - Sarasota
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1975 - Chicago	
1976 – Rochester, NY	
1977 – Buffalo	
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