

MIDWEST SURGICAL ASSOCIATION 53rd ANNUAL MEETING

*Grand Hotel
Mackinac Island, Michigan
August 1-3, 2010*

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FUTURE MEETINGS

August 7-10, 2011, Eagle Ridge, Galena, Illinois

August 5-8, 2012, Grand Hotel, Mackinac Island, Michigan

July 28-31, 2013 Grand Traverse Resort, Traverse City, Michigan

EDUCATIONAL GRANTS: The Midwest Surgical Association would like to acknowledge and thank all sponsors who have provided educational grants received in support of this continuing medical education conference. The sponsors who have provided educational grants will be acknowledged on signs in the conference hall, the registration area, and exhibit area.

PAST PRESIDENTS OF THE MIDWEST SURGICAL ASSOCIATION

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Ernest M. Berkas, MD	Mackinac Island, MI	1972
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Loring S. Helfrich, MD	Rockton, IL	1959
Loring S. Helfrich, MD	Rockton, IL	1958

The **Midwest Surgical Association** is a surgical organization made up of surgeons who have established reputations as practitioners, authors, teachers, and/or original investigators. The objective of this society is to exemplify and promote the highest standards of surgical practice, especially among young surgeons in the Midwest. The annual meeting is held in August each year in different locations throughout the Midwest and consists of a stimulating scientific program of the highest quality and a social program planned with children and families in mind.

The Midwest Surgical Association
1101 - 24 Street
West Des Moines, IA 50266
Phone: (515) 274-4339

www.midwestsurg.org

EFFECTIVE AUGUST 2010
MANAGEMENT OFFICE WILL BE:

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5810 W. 140th Terrace
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The Midwest Surgical Association is happy to announce the establishment of the *Midwest Surgical Association Foundation*. Foundation funding will be used solely for research awards, programming, special lectureship honorariums, and other appropriate scientific, research, or educational purposes.

The *Midwest Surgical Association Foundation* is a non-profit organization that is committed to exemplify, support, and promote the highest standards of surgical practice, especially among young surgeons of the Midwest. The Foundation has been organized to pursue exclusively charitable, educational, scientific, benevolent, and eleemosynary purposes including the promotion of surgical education and research that qualifies it as an exempt organization under Section 501©(3) of the Internal Revenue Code of 1986 and exempt from taxation under Section 501(a).

The Foundation may engage directly in charitable, educational, scientific, benevolent, or eleemosynary activities, including activities to promote surgical education and research. With increased support, these key arenas will strengthen the Association.

Not everyone has the time to participate in all Midwest Surgical Association activities and conferences, but by donating to the Foundation you are able to help support current activities, conferences, research, and lectureships as well as future projects.

The Foundation is now able to accept donations from members or nonmembers. If you would like to support the Association through its Foundation, both current and deferred gifts may be made. These donations are tax deductible and should be made out directly to:

Midwest Surgical Association Foundation
1101 - 24th Street, West Des Moines, IA 50266-2110

EFFECTIVE AUGUST 2010 MANAGEMENT OFFICE WILL BE:

Nonie Lowry, *Director*, Association Management

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If you have any questions, please contact the clearinghouse number (515) 274-4339, the treasurer, Richard A. Berg, MD, at (586) 772-4444, or any of the MSA Board members.

Midwest Surgical Association 2010 Scientific Program

Sunday, August 1, 2010

3:00 pm to 6:00 pm	Registration, Garden Terrace
2:00 pm to 4:00 pm	Council Meeting, Board Room
5:00 pm to 5:30 pm	New Members Reception, Terrace Room, (<i>next to Audobon Bar</i>)
5:30 pm to 6:00 pm	Meet & Greet New Members, Terrace Room
6:00 pm to 7:00 pm	Cocktail Reception, West Front Porch
7:00 pm to 8:45 pm (<i>seating</i>)	Dinner (on your own), Dining Hall
9:00 pm to 11:00 pm	"Spectacular Problems in Surgery", Theatre

Monday, August 2, 2010

8:00 am to 12:00 noon	Registration, Theatre Foyer
8:00 am to 8:20 am	Featured Posters Presentation, Theatre
8:30 am to 9:30 am	Membership Papers Session I, Theatre
9:30 am to 10:00 am	Scott Woods Memorial Lecture, Theatre David Hoyt, M.D., FACS
10:00 am to 10:15 am	Break, visit Poster Session
10:15 am to 12:15 pm	Resident Papers Competition, Theatre
12:15 pm to 1:00 pm	William H. Harridge Memorial Lecturer, Theatre Kirby Bland, MD, FACS
6:00 pm to 7:00 pm	Cocktail Reception, Porch
7:00 pm to 11:30 pm	Annual Banquet/Dinner Dance, Theatre

Tuesday, August 3, 2010

8:00 am to 12:00 noon	Registration, Theatre Foyer
8:15 am to 10:15 am	Membership Papers Session II, Theatre
10:15 am to 10:30 am	Break, visit Poster Session
10:30 am to 12:15 pm	Membership Papers Session III, Theatre
12:15 pm to 12:45 pm	Presidential Address, Theatre Donn Schroder, MD, FACS
12:45 pm to 1:30 pm	Annual Business Meeting, Theatre
7:00 pm – 10:00 pm	Dinner at Fort

Wednesday, August 4, 2010

8:00 am	Luggage Sweep – luggage outside your door by midnight
11:00 am	Hotel Checkout

NOTE: CHILDREN ARE WELCOMED AT ALL SOCIAL EVENTS

Midwest Surgical Association Family Program August 2010

Sunday, August 1, 2010

3:00 pm to 6:00 pm	Registration	Garden Terrace	
5:00 pm to 6:00 pm	New Members Reception		Terrace Room (<i>next to Audubon Bar</i>)
5:30 pm to 6:00 pm	Meet & Greet New Members	(<i>all welcome</i>)	Terrace Room
6:00 pm to 7:00 pm	Cocktail Reception		Terrace Room
7:00 pm to 8:45 pm	Dinner	(<i>on your own</i>)	Main Dining Room
9:00 pm to 11:00 pm	Children's Movie Presentation		Headquarters of the Capitol Club

Monday, August 2, 2010

7:00 am to 8:00 am	5K Run, Activity Center		Meet at Tennis Courts
9:30 am to 2:30 pm	Children's Program		Rebecca's Room (<i>Ground Floor</i>)
10:00 am to 12:00 pm	Spouse Program: Ryba's Fudge Shoppe Tour and Demonstration		Ryba's Fudge Shoppe (<i>Head of Arnold's Dock</i>)
1:00 pm to 1:30 pm	Lunch	(<i>on your own</i>)	
1:30 pm to 4:00 pm	Golf Tournament		Grand Nine/Woods Golf Course
1:30 pm to 4:00 pm	Tennis Tournament		Tennis Courts
6:00 pm to 7:00 pm	Cocktail Reception		West Front Porch
7:00 pm to 11:30 pm	Annual Banquet/Dinner Dance		Theatre

Tuesday, August 3, 2010

9:30 am to 12:30 pm	Children's Program		Rebecca's Room (<i>Ground Floor</i>)
10:00 am to 11:00 am	Spouse Program: Garden Tour		See times and locations at registration.
11:00 am	Carriage Island Tour		Meet at front entrance
12:00 Noon to 1:30 pm	Lunch	(<i>on your own</i>)	Dining Hall
2:00 pm to 3:00 pm	Historical Lecture/Island, Mansion & Hotel History		West Porch
3:00 pm to 4:00 pm	West Bluff Walking Tour/Mansion Tour		Leave from West Porch
1:30 pm to 4:00 pm	Golf and Tennis Available	(<i>at your own expense</i>)	Jewel Course / Tennis Court
2:30 pm to 3:30 pm	Ryba's Fudge Shoppe Tour	(<i>limit 20</i>)	Ryba's Fudge Shoppe (<i>Head of Arnold's Dock</i>)
3:30 pm to 5:00 pm	High Tea	(<i>own expense</i>) / Music	Main Parlor
6:30 pm to 7:00 pm	Taxis will leave from the Grand Terrace Entrance beginning at 6:30 pm Participants may also walk to the Fort		
7:00 to 10:00 pm	Dinner and Entertainment		
9:30 pm to 10:15 pm	Taxis will leave Main Gate of the Fort beginning 9:30 pm. Participants may also walk back to The Grand Hotel.		
10:00 pm	Bonfire on the beach	(<i>weather permitting</i>)	

Wednesday, August 4, 2010

8:00 am	Luggage Sweep	(Luggage outside doors by midnight or early a.m. before sweep.)	
9:30 - 11:30 am	Governor's Mansion Tour	(<i>on your own</i>)	
11:00 am	Hotel Checkout		

There are lots and lots of activities within the hotel and throughout the island. If you are looking for activities, ask to see the activity booklet at the MSA registration desk or see the concierge for ideas.

NOTE: CHILDREN ARE WELCOMED AT ALL SOCIAL EVENTS

Midwest Surgical Association 53rd Annual Meeting, 2010

Sunday, August 1, 2010

9:00 – 11:00 pm

Spectacular Problems in Surgery

- 1 **Hepato-Biliary Fascinomas: I didn't see that coming!**
Gregory JS, Corcoran JA
Johnstown, PA
- 2 **Acquired Factor VIII deficiency**
Hallowell P, Smith P, Schirmer B
Charlottesville, VA
- 3 **Successful Management of Impalement after High Speed Motor Vehicle Ejection**
Batdorf NJ, Zielinski MD, Jenkins D, Bannon MP
Rochester, MN
- 4 **Delayed Mechanical Small Bowel Obstruction Caused by Retained, Free, Intraperitoneal Staple Following Laparoscopic Appendectomy**
Chepla, KJ; Wilhelm SM
Cleveland, OH
- 5 **Spontaneous Hematoma of the Transverse Colon Mesentery: An Unusual Case**
Rammos CK, DeBord JR
Peoria, IL
- 6 **Successful Management of Acute Mesenteric Ischemia – A Combined Surgical and Interventional Radiology Approach**
Ekeh AP, Izu B
Dayton, OH

Monday, August 2, 2010

FEATURED POSTER PRESENTATION

8:00 – 8:20 am

Featured Posters – Oral Presentation

MEMBERSHIP SCIENTIFIC PAPERS SESSION I

Moderator: Christopher Brandt

8:20 – 8:30 am

INTRODUCTION

8:30 – 8:45 am

- 1 **Prophylactic Antibiotic Practices for Colectomy in Michigan**
Hendren SK, Englesbe MJ, Brooks L, Kubus JJ, Campbell DA

Monday, August 2, 2010 (continued)

- 8:45 – 9:00 am **2 Adding Days Spent in Readmission to the Initial Post Operative Length of Stay Limits the Perceived Benefit of Laparoscopic Distal Pancreatectomy When Compared to Open Distal Pancreatectomy**
Baker MS, Bentrem D, Ujiki M, Stocker S, Talamonti MS
- 9:00 – 9:15 am **3 Vascular Procedures in Nonagenarians and Centenerians are Safe**
Gorsuch JM, Sage KM, Mansour MA, Wheatley BJ, Cuff RF, Chambers CA, Wong PY
- 9:15 – 9:30 am **4 Surgical Interns Obtaining Operative Consent for Laparoscopic Cholecystectomy: Is there a need for formal training?**
Swistak S, Edhayan E, Mittal V
- 9:30 – 10:00 am **SCOTT WOODS MEMORIAL LECTURE**
David Hoyt, MD, Executive Director of American College of Surgeons
- 10:00 – 10:15 am Break, visit **Poster Session**
- RESIDENT COMPETITION SCIENTIFIC PAPERS**
Moderator: Donn Schroder
- 10:15 – 10:30 am **5 Adverse Effects Of Pre-Operative Steroid Use On Surgical Outcomes.**
Ismael HN, Rubinfeld I, Syed Z, Blyden D, Patton P, Horst HM.
- 10:30 – 10:45 am **6 Feasibility of and Barriers to Continuity of Care in US General Surgery Residency**
Gregory JS, Morrissey SL, Dumire RD
- 10:45 – 11:00 am **7 The validity of Take-Home Surgical Simulators to Enhance Resident Technical Skill Proficiency**
Uccelli J, Kahol K, Feinstein A, Ashby A, Smith M, Ferrara J.
- 11:00 – 11:15 am **8 It Takes an Intensivist**
Hoesel LM, Desai A, Silverman LZ, Posa P, Purtill MA, Brandt MM.
- 11:15 – 11:30 am **9 Predictors of Positive Sentinel Lymph Node in Thin Melanoma**
Yonick D, Higgins R, Kahn E, Dahiya M, Yao K, Godellas C, Shoup M, Aranha GV
- 11:30 – 11:45 am **10 Hesperitin, a Potential Therapy for Carcinoid Cancer**
Zarebczan B, Pinchot S, Kunnimalaiyaan M, Chen H

Tuesday, August 3, 2010 (continued)

- 10:00 – 10:15 am **20 Long-Term Outcomes of Laparoscopic TEP Inguinal Hernia Repairs Performed by Supervised Surgical Trainees**
Zendejas B, Onkendi EO, Brahmhatt RD, Greenlee SM, Lohse CM, Farley DR
- 10:15 – 10:30 am Break, visit **Poster Session**
- MEMBERSHIP SCIENTIFIC PAPERS SESSION III**
Moderator: Samir Gupta
- 10:30-10:45 am **21 Disparities Between Resident and Surgeon Perceptions of Intra-Operative Teaching**
Anderson, CI, Butvidas, L, Balogh, D, Petrik, E, Basson, MD
- 10:45 – 11:00 am **22 Nodal Positivity Correlated to the Number of Lesions after the Use of Magnetic Resonant Imaging in Breast Cancer**
Saha S, Sirop S, Singla A, Korant A, Chakravarty B, Lawrence L, Strahle D, Hicks R, Soni M, Wiese D.
- 11:00 – 11:15 am **23 Optimum Repair for Massive Ventral Hernias in the Morbidly Obese Patient – Is Panniculectomy Helpful?**
Harth, K, Blatnik, J, Rosen, M.
- 11:15 – 11:30 am **24 Impact of Primary Omentectomy on Longevity of Peritoneal Dialysis Catheters in Children**
Ladd AP, Breckler FD, Novotny NM
- 11:30 – 11:45 am **25 Support for a Postresection Prognostic Score for Pancreatic Endocrine Tumors**
Hurtuk MG, Godambe A, Shoup M, Yong S, Aranha GV
- 11:45 – 12 Noon **26 Incidence of Small Bowel Obstruction Following Laparoscopic and Open Colorectal Resection**
Chamberlain RS, Alvarez-Downing M, Klaassen Z, Orringer R, Gilder M, Tarantino D
- 12 Noon – 12:15 pm **27 Hashimoto’s Thyroiditis: Outcome of Surgical Resection for Patients with Thyromegaly and Compressive Symptoms**
Wormer BA, McHenry CR
- 12:15 – 12:45 pm **Presidential Address**
Prayer as an Adjuvant to Surgery
Donn Schroeder, MD, FACS
- 12:45 – 1:30 pm **Business Meeting**
- Adjournment**

Poster Abstracts

- 28 **Alvimopan Significantly Decreases Hospital Stay Following Laparoscopic Colon And Rectal Resection**
Tsai BM, Johansen OB, Melbert RB, Sanders BM, Maun DC, Lane FR.
- 29 **Outcome of Plastic Closure of Abdominal Wall Defects In Gastroschisis**
Orion KC, Krein M, Pitcher G, Shaaban A, Pherman L, Liao J, Shilyansky J
- 30 **Isolated Venous Injuries to the Extremities**
Tarras SL, Diebel LN
- 31 **Epidemiology of Trauma in a Level One Trauma Center. The Aging Population Increases the Incidence of Falls in Northwest Ohio**
Olorunto W, Serrano PE, Gupta V, Higgins AJ
- 32 **Tunneled Hemodialysis Catheter Salvage Using Both Mechanical and Chemical Dec clotting Methods**
Kennedy N, Tarakji M, Jain J, Flynn LM
- 33 **Deer; The Rural Menace**
Smoot DL, Zielinski MD, Schiller HJ, Jenkins D, Cullinane DC, Sawyer MD
- 34 **Intussusception on 64-Slice CT Scanners: Should We Come Running?**
Doud, A., Horst, HM., Webb, S., Munaco, A., Azuh, O., Halabi, S., Rubinfeld, I.
- 35 **Recovery after Complicated Colectomy as Assessed by MS-DRG Assignment**
Asgeirsson, T.; Luchtefeld, M.; Senagore, AJ
- 36 **Clinical Significance of Gastric Emptying in Diabetic Bariatric Patients Undergoing Laparoscopic Gastric Banding**
Sticca RP, Dewing BD, MacColl CSJ

-1-

Prophylactic Antibiotic Practices for Colectomy in Michigan

Hendren SK, Englesbe MJ, Brooks L, Kubus JJ, Campbell DA

University of Michigan Taubman Center

Background:

The Michigan Surgical Quality Collaborative (MSQC) is a consortium of Michigan hospitals focused on improving surgical care and outcomes. While there are clear guidelines for prophylactic intravenous antibiotics in colorectal surgery, the objective of this study was to determine the extent to which these guidelines are followed.

Methods:

Twenty-six Michigan hospitals participated in a colectomy quality improvement project within the MSQC. In addition to prospective collection of the American College of Surgeons National Surgical Quality Improvement Program variables and 30-day outcomes, these hospitals collect 25 additional data points on processes and outcomes of care for colectomy cases (CPT codes 44140, 44160, 44204, 44205). Perioperative antibiotic drug choices and timing were compared with recommended Surgical Care Improvement Project (SCIP) measures. Hospitals with fewer than 10 cases (3) were excluded from analysis.

Results:

From 7/1/07 to 6/30/09, data were collected on 2584 colectomy patients (mean age 65.2). Laparoscopic surgery was performed in 37% of cases (range by hospital 10%-64%). 11.3% of the cases were emergencies. Prophylactic antibiotics were given in 97.7% of cases in which they were indicated. 80% of antibiotic choices were SCIP-compliant, including 83% of elective cases (n=2118) and 53% of emergency cases (n=204). The most common antibiotic choices in SCIP-compliant cases were cefoxitin (27%), cefazolin plus flagyl (23%), ertapenem (17%), ampicillin/sulbactam (10%), and cefotetan (7%). In the cases that were not SCIP-compliant, the most common choice was cefazolin alone (30%). 82% of colectomy cases were compliant with the SCIP measure for dosing within 60 minutes before the start of surgery (n=2284; 84% of elective cases and 57% of emergency cases). Recommended weight-adjusted dosing was performed in 55% of cases >80 kg who received first-line antibiotic agents (n=612). 342 cases were greater than 3 hours, and 260 of these received prophylactic antibiotics that are recommended to be intraoperatively re-dosed. Of these, 19 (7.3%) were redosed. In patients who received prophylactic antibiotics (n=2322), SSI rates were 9.9% overall, ranging by hospital from 4% to 18%.

Conclusions:

Prophylactic antibiotic use for colectomy in Michigan hospitals did not conform to recommended practices between 2007-2009. 20% of antibiotic choices did not comply with SCIP measures, timeliness was non-compliant in 18% of cases, weight-adjusted dosing was not performed in 45%, and recommended re-dosing was omitted in 93% of cases. These findings hold the promise for targeted quality improvement initiatives to improve processes of care for colorectal surgery in Michigan

-2-

Adding Days Spent in Readmission to the Initial Post Operative Length of Stay Limits the Perceived Benefit of Laparoscopic Distal Pancreatectomy When Compared to Open Distal Pancreatectomy

Baker MS, Bentrem D, Ujiki M, Stocker S, Talamonti MS

NorthShore University Health Systems, University of Chicago.

Background: Laparoscopic distal pancreatectomy (LDP) is emerging as the modality of choice for managing premalignant neoplasms in the pancreatic body and tail. Previously published comparisons of LDP to open distal pancreatectomy (ODP) have consistently demonstrated a statistically shorter post operative length of stay (LOS) for patients undergoing LDP. None of these published comparisons have included data on readmissions occurring after initial hospital discharge and may consequently overstate the benefit of LDP relative to ODP.

Methods: We maintain a prospectively accruing database tracking 600 perioperative characteristics for patients presenting for treatment of pancreatic disease. This database includes initial LOS and data on type of post operative complications and nature of post operative interventions but does not track the length of time spent in the hospital for post operative readmissions. We queried this database to identify all patients undergoing either LDP or ODP between August 2007 and August 2009. Preoperative, operative and postoperative characteristics were culled from the database and compared using standard methods. The electronic medical records for these patients were then reviewed retrospectively to identify readmissions and to determine the cause, treatment required and LOS for each readmission. Initial LOS was then added to readmission LOS to determine the total hospital stay for each patient. That value was compared by standard methods.

Results: Fifty patients underwent ODP during the years studied. Twenty LDP were attempted and 20 completed. Patients undergoing LDP were statistically identical to those undergoing ODP in regard to age, mode of presentation, clinical comorbidities, demographic characteristics, operative time, tumor size, and rates of overall morbidity, 30-day mortality and post-operative pancreatic fistula. Patients undergoing LDP were statistically more likely to be female (80% vs. 50%, $p < 0.001$), had a higher mean preoperative albumin level (3.81 ± 0.06 vs. 3.59 ± 0.05 , $p < 0.001$), had a lower estimated operative blood loss (299.7 ± 56.2 vs. 759.5 ± 164.5 mLs, $p < 0.001$), were less likely to have ductal adenocarcinoma (0.0% vs. 24%, $p < 0.001$), had a lesser average lymphadenectomy (7.9 ± 1.9 vs. 19.2 ± 1.6 nodes, $p < 0.001$) and a significantly shorter initial postoperative LOS (4.8 ± 0.1 days vs. 8.7 ± 0.1 days, p value < 0.001) when compared to those undergoing ODP. There were a total of eight readmissions. Five were in patients that underwent LDP, 3 were in patients that underwent ODP. The readmission rate following LDP was statistically higher than that following ODP (25% vs. 6%, p value < 0.05). Causes for readmission included pneumonia, wound infection, pancreatic fistula and intra-abdominal abscess. Adding the length of readmissions to the initial LOS statistically eliminated the perceived effect of LDP to shorten post operative LOS. The average overall LOS for LDP was 7.2 ± 0.3 days. That for ODP was 9.3 ± 0.1 days (p value = 0.2).

Conclusions: LDP is a safe, effective modality for managing premalignant pancreatic neoplasm providing morbidity comparable to that for ODP and an apparent benefit in initial post operative LOS. The rate of readmission for complications is, however, higher following LDP. Adding readmission LOS to the initial LOS eliminates the perceived effect of LDP to accelerate in-hospital recovery

Vascular Procedures in Nonagenarians and Centenerians are Safe

Gorsuch JM, Sage KM, Mansour MA, Wheatley BJ, Cuff RF, Chambers CA, Wong PY

Spectrum Health, MSU

Background: As the population ages, urgent and emergent vascular procedures are necessary to preserve life and limb. It is presumed that elderly patients have poor outcomes and therefore should not be considered for surgery.

Purpose: To review the clinical outcomes of vascular procedures performed in patients in their ninth and tenth decade of life and compare surgical results over time.

Methods: All patients aged 89 and older admitted to the vascular service were entered in a database. We excluded patients having arteriovenous access. Hospital and office records were reviewed to determine 30-day and longer term survival after vascular procedures as well as functional recovery after discharge. Patients were divided into group I (79 patients) & II (97 patients) based on the time of presentation, prior to 2005 and the last five years.

Results: In a 15-year period, ending in February 2010, 196 procedures were performed in 176 patients, 102 women and 74 men. The average age was 92 (range is 89-102). There were no differences in risk factors and comorbidities between the two groups. There were more patients presenting with acute limb ischemia in group I (31% vs. 12%) and ruptured aortic aneurysm (AAA) (6% vs. 2%). In group II, a greater number of patients presented with critical limb ischemia (45% vs. 28%) and elective AAA (5% vs. 3%). The 2 groups had a similar number of patients with symptomatic and asymptomatic carotid disease (21% & 18%). The most frequent procedures in group I were embolectomy (29%), carotid endarterectomy (CEA) (21%) and distal bypass (16%). In group II, lower extremity endovascular recanalization was performed in 24%, followed by CEA in 15% and endovascular AAA repair in 11%. Despite more aggressive treatment in the last 5 years, the complication rates dropped from 29% to 5%, and 30-day mortality from 10% to 5.5%. Moreover, the majority of patients returned to their preoperative functional status in both groups, 82% vs. 92%.

Conclusion: Vascular procedures in the ninth and tenth decade of life are safe. Despite a more aggressive approach, we observed an improvement in morbidity and mortality rates. Furthermore, the large majority of patients returned to their preoperative functional status.

Surgical Interns Obtaining Operative Consent for Laparoscopic Cholecystectomy; Is there a need for formal training?

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Prior to arriving at the operating room, patients entrust their bodies to the knowledge and skill of the surgeon by signing an "Informed Consent". The surgical intern frequently obtains informed consent. Our study examines the experience, knowledge and comfort level of surgical residents in obtaining informed consent from patients for Laparoscopic Cholecystectomies (LC) during the first six months of their intern year.

A brief cross-sectional survey was emailed to all current surgical residents at two Metro Detroit hospitals. The survey focused on operative knowledge, complications, frequency and comfort level of residents in obtaining consent for LC during the first 6 months of their intern year.

There was a 92% response rate to the survey. 100% of residents claimed to have obtained consent for LC 10 times or more in their intern year. 35% of the residents claimed that they frequently (> 75% of the time) obtained consent from patients that they never followed. 11.8% of residents did not feel comfortable and 41.2% felt moderately comfortable obtaining informed consent for LC. A minority of surgical residents (17.6%) responded that they felt very comfortable in obtaining consent for LC. 35% of residents accepted that they did not know the complications of LC at the time of obtaining consent. 5.9% of residents lacked basic knowledge of LC while 52.9% of residents claimed to know the procedure moderately well when obtaining consent. 35.3% of interns rated their knowledge of possible complications as poor while an additional 35.3% rated their knowledge of complications as only moderate.

Our study indicates that a large percentage of first year surgical residents obtain consent for LC despite being uncomfortable, not knowing the patient previously and with incomplete knowledge of the procedure or its complications. There is a need for improvement in the process of obtaining consent and the education of residents in obtaining routine consent. Systems based approach is needed to counter this important ethical dilemma of informed consent being obtained by residents that are themselves ill informed about the consent.

ADVERSE EFFECTS OF PRE-OPERATIVE STEROID USE ON SURGICAL OUTCOMES

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Objectives:

The use of steroids pre-operatively has been previously associated with an increased incidence of post-operative complications. This study uses short term outcomes data from the National Surgical Quality Improvement Project (NSQIP) to evaluate a heterogeneous and large group of surgical patients from multiple institutions. We sought to establish the increased risks associated with preoperative steroid use in this well validated outcomes data set.

Methods:

After approval of the IRB and in compliance with the NSQIP Data use agreement, data related to steroid use and postoperative complications was taken from the National Surgical Quality Improvement Project (NSQIP) public use database and analyzed. 635,265 patients were evaluated for pre-operative steroid use and 14 post operative complications including various wound occurrences, pneumonia, re-intubation and re-operation as well other demographic characteristics. Chi-square tests and Odds Ratio was used to estimate the risk of each complication.

Results:

Out of the 635,265 patients, 20,434 (3.2%) used steroids pre-operatively. The rate of Superficial SSI increased from 2.9% to 5% with the use of steroids (Odds Ratio 1.724). Deep SSI increased from 0.8% to 1.8% (Odds Ratio 2.353). Organ/Space SSI and dehiscence increased 2-3 fold with steroid use (Odds Ratios 2.469 and 3.338 respectively). Respiratory complications including pneumonia (2.982), Re-intubation (2.983). Failure to wean (3.382) and PE (2.220) also increased by 2-3 fold. Acute renal failure increased from 0.5% to 1.5% (odds ratio 3.205). Progressive renal insufficiency increased from 0.4% to 0.9% (Odds Ratio 2.660). The rate of post-operative MI increased from 0.2% to 0.3% (Odds Ratio 1.898) and cardiac arrest doubled with an Odds Ratio of 2.577. Return to the OR increased from 5.4% to 11.2% (2.210) and post operative death increased fourfold (1.6% - 6.0% - Odds Ratio 3.920). All results showed statistical significance with a p-value <0.001.

Conclusion:

The study demonstrates that patients receiving pre-operative steroids have more than twice the rate of postoperative infections and complications. The effect is more pronounced with deeper wound infections and dehiscence than superficial SSI. The risk of pneumonia, re-intubation and failure to wean off the ventilator is 3 times higher in these patients. Compared to other studies, we evaluated a much larger population of surgical patients, procedures and occurrences. This study will give surgeons a more objective understanding of the operative risk associated with the use of pre-operative steroids to aid in operative planning and counseling of patients and family. Further study with regards to dosing threshold and indications for steroids may improve understanding of this phenomenon.

Feasibility of and Barriers to Continuity of Care in US General Surgery Residency

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Introduction: Continuity of care (COC) has been recognized by the RRC as an essential component of surgical training, and is assumed by most physicians to represent care of a single patient (SP) thru the Preoperative evaluation (PRE), Operative procedure (OC) and Post-operative Care (POC). Our study was designed to analyze the current level of COC and the barriers residents face in participating in COC.

Methods: We surveyed US residency programs. The “best guess” (0, <5, >5) patients seen in the PRE, OC, and POC and in (SP) for 10 operations (6 common, 4 uncommon) was assessed. Data was analyzed for each phase of care, by Post Graduate Year (PGY), globally, and for University Based (UBP) and Community Based programs (CBP). Residents were also surveyed on a standardized list of possible barriers. Odds ratios (ODR) were calculated for the barriers.

Results: 274 resident surveys representing 56 institutions (UBP 31, CBP 25) were returned completed. The majority of COC experience is episodic representing various patients in different phases of care rather than a SP followed throughout the COC. SP > 5 COC is accumulated over 5 years with a minimum of at least 3 years before 70% of residents reach this level. In common operations 12 - 28% of PGY5 residents and in complex/uncommon operations between 50 -61% have not seen at least 5 SP COC over their entire residency. Even with episodic care <70% of residents have seen at least 5 liver, pancreatic or APR patients. No difference was seen between UBP & CBP in any category. The greatest barriers to COC overall were: inability to attend clinic, floor/ward duties and being post call, and 30 hr work restriction. For PRE it was floor duties (ODR = 2.79) and inability to attend clinic (ODR = 3.06), for OP it was Post-call (ODR = 3.01), 30 hr continuous care (ODR=1.67) and floor/ward duties (ODR = 2.82) , for POC it was post call (ODR = 1.79), inability to attend clinic (ODR = 1.54) and floor/ward duties (ODR = 1.56). The odds ratios were unaffected by type of program, presence of a night float system or PGY.

Conclusion: SP COC occurs infrequently and requires years to acquire under the current restrictions in work hours. Although complex/uncommon patient procedures have significant gaps in COC, even with common procedures we can not be assured that after 5 years the resident has seen at least 5 SP thru the entire spectrum of COC. Post call time, inability to attend clinic, work load, and the 30 hour restriction are the principle significant barriers to SP COC. When assessing the effect of work week hour restrictions, studies must be certain to tease out the associated collateral effects of post call and 30 hours continuous care. Current attempts to “adjust” the structure of residencies by novel approaches such as night float have failed to impact COC. The affect of further reductions in residency work hours must include an assessment of the effect on COC.

The validity of Take-Home Surgical Simulators to Enhance Resident Technical Skill Proficiency

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Introduction: With the increasing number of new procedures (single port surgery) and novel techniques (robotic surgery), simulation centers are becoming increasingly important sites to train surgery residents in a safe and effective manner. However the current (and future) confines of resident work hours makes it difficult to promote seamless incorporation of training modules into surgical curricula. A solution to this dilemma lies in developing parallel models of education wherein residents train on certain modules in an unstructured environment (their homes), while certifying their competencies in those modules through periodic testing at a core facility (e.g. a simulation center). While the development of cost-competitive simulators overcomes a major barrier to this solution, it is unknown whether residents who learn skills in an unstructured environment will develop a technical skill set that rivals that of those trained in the more traditional, structured learning environment.

Methods: Seven surgery residents were exposed to an 11 hour scripted surgical skills training exercise using the Fundamentals of Laparoscopy (FLS®) simulator and a proprietary Cognitive Surgical Simulator. This cohort was provided structured learning (SL) through both didactic and hands-on skills training sessions in an ACS Level I simulation center. During the first module of the scripted exercise, each resident was given specific goals and endpoints for the training. A second group of seven residents participated in an unstructured learning (UL) curriculum of surgical skills training. This group received only a 1.5 hr orientation that included an introduction to the simulators, basic guidelines, troubleshooting tips and a set of goals to meet during their training—including the expectation that they complete training within two weeks. These residents were given open access to the same aforementioned simulators, but without supervision or mentorship. The proficiency of all residents was measured at the end of their training using standardized ProMIS simulator electrocautery and transfer tasks. Residents were rated on gesture proficiency, hand movement smoothness, instrument movement smoothness, number of errors made and time elapsed to complete the tasks. ANOVA (X +/- 1SD) was used to detect significant ($p < 0.05$) between group differences.

Results: Both groups achieved high task scores, with comparable scores on gesture proficiency (0.71 +/- 0.1 SL v 0.7 +/- 0.09 UL), hand movement smoothness (0.68 +/- 0.1 SL v 0.71 +/- 0.06 UL), instrument movement smoothness (0.69 +/- 0.1 SL v 0.69 +/- 0.07 UL), errors (0.4 +/- 0.1 SL v 0.41 +/- 0.05 UL) and time elapsed (0.6 +/- 0.1 SL v 0.65 +/- 0.1 UL). There was no significant difference between group differences in final test scores ($p < 0.82$). Moreover, the unstructured learning group completed their training an average 3.2 of days faster than the structured learning group.

Conclusions: Unstructured learning is equally effective in delivering quality skills training when compared to structured classroom/laboratory training. Given emerging technologies that are able to produce affordable simulators (e.g. Nintendo Wii® based simulators), it is possible for residents to gain technical proficiency at their own convenience without any significant detriment to acquired skills—or impingement on work hour restrictions.

It Takes an Intensivist

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The Surviving Sepsis Campaign (SSC) is a worldwide initiative to decrease mortality from severe sepsis by 25% by 2009. Our institution initiated implementation of SSC guidelines in 2006. We hypothesize that the addition of a Surgical Intensivist will improve results more than the implementation of guidelines alone.

Methods: We retrospectively collected data on 19 patients who were admitted to the SICU prior to initiation of SSC with the diagnosis of severe sepsis or septic shock. This is the Pre-Bundle group. A multidisciplinary team consisting of nurses, respiratory therapists, physicians and PharmDs developed strategies and tools for implementing the guidelines. This process was put into practice in March 2006. Patients in the SICU who met criteria for the guidelines were identified, and with attending surgeon approval, the guidelines were implemented and overseen by the multidisciplinary team. This is the Bundle group. In September 2008, a Surgical Intensivist was added as the leader of the SICU team. This physician oversaw and ensured adherence to the guidelines for all patients who screened positive for sepsis. This is the Bundle-Plus group. Data on all groups was collected including: age; gender; hospital length of stay (LOS); direct variable cost (DVC); and mortality. Statistical analysis was performed using ANOVA, Chi-square and relative risk, with SPSS (SPSS Inc, Chicago, IL).

Results: We reviewed the data for 273 patients as shown:

	PreBundle n=19	Bundle n=186	Bundle Plus n=68	p-value
Age (years)	72 ± 13 Median 75 Mode 55 Range 39-90	67 ± 16 Median 69 Mode 76 Range 20-94	64 ± 15. Median 62 Mode 60 Range 19-89	NS
Gender	53% female	45% female	39% female	NS
LOS (days)	Mean 38 ± 31 Range 4-138 Median 32	29 ± 36 Range 1-247 Median 20	22 ± 15 Range 2-92 Median 18	p<0.05
Mortality	42%	28%	20%	NS
DVC (Avg±SD)	\$36,756 ± \$23,982 Median \$ 35,421	\$36,568± 45,486 Median \$21,215	\$30,428±\$25,701 Median \$20,805	NS

In addition we calculated relative risk of death. When comparing PreBundle to Bundle, relative risk of death decreased by 0.69, 31% reduced risk of death compared to PreBundle (CI 0.413-1.134). When comparing Bundle to Bundle-Plus, relative risk of death was again decreased by 0.73, a 27% reduction in the risk of death if they were in the group Bundle-Plus versus Bundle (CI 0.429-1.196).

Conclusion: Implementation of evidence-based guidelines improved mortality, decreased LOS and decreased cost in our Surgical Intensive Care unit. By adding the expertise of a Surgical Intensivist, we reduced LOS, cost and RR of death even further. While cost is not statistically significant, we did demonstrate a decrease in cost, likely by decreasing LOS while still increasing survival. Based on this data we recommend that all SICUs should have dedicated Surgical Intensivists in order to maximize the improvements that can occur with implementation of evidence-based guidelines.

Predictors of Positive Sentinel Lymph Node in Thin Melanoma

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Introduction: The incidence of malignant melanoma has steadily increased over the past couple decades. The advent of aggressive screening programs has increased the incidence of early detection of malignant melanomas and thin melanomas. The treatment of thin melanoma, defined as less than 1 mm in thickness, may include sentinel lymph node biopsy (SLNB). However, the validity of SLNB in thin melanoma is widely debated. The purpose of this study was to elucidate pathologic factors that are predictive of a positive sentinel lymph node (SLN) to help guide the use of SLNB in the treatment of thin melanoma.

Methods: A prospective database of melanoma patients was analyzed retrospectively, which included 1199 patients diagnosed with melanoma from 1998 to 2009. Patients were included in the study if their melanoma was less than 1 mm. Clinicopathologic factors including ulceration, thickness, Clark Level, mitotic rate, lymphatic response, regression, vertical growth, satellitosis, angiolymphatic spread, margin status, and corresponding nevus were analyzed by multiple logistic regression to determine Odds Ratio (OR). A P-value < 0.05 was determined to be statistically significant.

Results: Thin melanomas were identified in 469 (39%) patients. Of the thin melanoma patients, 147 (31%) patients underwent SLNB. A positive SLN was found in 16 (11%) patients. Multiple logistic regression demonstrated that both ulceration (OR 5.27, P = 0.047) and thickness (OR 46.69, P = 0.022) were statistically significant predictors of a positive SLN. Additionally, the mean thickness for those patients with a positive SLN was 0.74 mm (95% CI [0.63, 0.85]) as compared to 0.50 mm (95% CI [0.48, 0.52]) for those patients with a negative SLN (P < 0.00005).

Conclusion: Patients with thin melanoma are at a significant risk for a positive SLN if the melanoma's depth is greater than 0.74 mm or ulceration is present. These patients with thin melanomas should be considered candidates for SLNB.

-10-

Hesperitin, a Potential Therapy for Carcinoid Cancer

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Introduction: Many studies have been conducted to elucidate the roll of naturally occurring compounds in the treatment of various forms of cancer. One of these compounds, Hesperitin, has been shown to inhibit proliferation of human pancreatic cancer cells and murine melanoma cells. Although these compounds show promise, few studies have been performed to evaluate their effects in carcinoid tumors. Our lab has previously shown that carcinoid cancer cell growth can be suppressed via activation of the Notch signaling pathway. In this study, we sought to examine Hesperitin as a potential Notch activating drug and carcinoid tumor suppressor.

Methods: A high throughput drug screen utilizing a Notch activating assay revealed that Hesperitin, induced the Notch signaling pathway. We treated human BON GI carcinoid cells with Hesperitin (up to 125 μ M) and assessed growth with MTT assays. Western blots for human achaete-scute complex-like 1 (ASCL-1) and Chromogranin A (CgA) were used to measure production of neuroendocrine tumor markers. We then examined the expression of Notch 1, 2, and 3 using real-time PCR.

Results: The MTT assay demonstrated Hesperitin induced cell death in BON cells in a dose dependent manner. Western blot analysis confirmed that Hesperitin suppressed expression of both ASCL-1 and CgA with a 2 day treatment. Real-time PCR confirmed that Hesperitin increased the levels of Notch 1 over controls.

Conclusion: This study demonstrates that Hesperitin can induce Notch 1 in carcinoid cells, leading to suppression of tumor cell proliferation and bioactive hormone production. Based on these findings, further research into the role of Hesperitin as a treatment for patients with carcinoid cancer is warranted.

Mild Hypercalcemia: An Indication to Select 4D-CT Scan for Pre-operative Localization of Parathyroid Adenomas

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Introduction: Technetium (99mTc) sestamibi scanning (Sestamibi) is the most accepted method of imaging used for preoperative localization of parathyroid adenomas. Four dimensional computed tomography (4D-CT) is a relatively new localization technique that has not been as rigorously evaluated. At our institution we have been using both imaging modalities in patients with primary hyperparathyroidism to determine the difference in efficacy of these techniques.

Methods: Between October 2006 and May 2009, 135 consecutive patients with solitary parathyroid adenomas underwent preoperative Sestamibi, 4D-CT, and subsequent parathyroidectomy for primary hyperparathyroidism. Preoperative biochemical analysis, demographics, imaging study results, intraoperative findings, and postoperative outcomes were evaluated. The proportion of positive imaging results was determined at the quadrant and hemisphere levels. The association between patient characteristics and parathyroid gland weights and the probability of having positive preoperative localization was examined.

Results: Of the 135 patients there were 110 females (82%) with a mean age of 59 years. Median preoperative parathyroid hormone, calcium, and 25-hydroxy vitamin D levels were 117 pg/mL, 10.9 mg/dL, and 23.5 ng/mL respectively. Median gland weight was 0.457 gm (range 0.054 to 42 gm). Patients with larger parathyroid adenomas were more likely to have positive results at the hemisphere level with both Sestamibi ($p<0.001$) and 4D-CT ($p<0.001$). Higher preoperative calcium levels predicted positive Sestamibi results ($p=0.014$), whereas higher preoperative parathyroid hormone levels predicted positive 4D-CT results ($p=0.02$) at the hemisphere level. When the intraoperative parathyroid adenoma location was compared to the preoperative imaging at the quadrant level, there was no difference between the accuracy of 4D-CT (38%) and Sestamibi (36%). However, when this comparison was evaluated at the hemisphere level, 4D-CT was significantly more accurate than Sestamibi (72% vs. 62%; $p=0.023$). As compared to Sestamibi, 4D-CT was significantly more accurate at localizing a parathyroid adenoma to the quadrant (45% vs. 29%; $p=0.013$) and hemisphere (66% vs. 46%; $p=0.008$) in those with serum calcium levels less than 10.8 mg/dL. Also, 4D-CT was significantly more accurate at localizing to the hemisphere among patients with parathyroid gland weights less than 500 mg (67% vs. 44%; $p=0.001$).

Conclusions: 4D-CT provides better preoperative localization than Sestamibi and is more accurate in patients with mild hypercalcemia and smaller parathyroid adenomas.

Topical Gentamicin Does Not Provide Any Additional Anastomotic Strength When Combined With Fibrin Glue

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Leakage from colonic anastomosis is caused by a multitude of factors and leads to morbidity and mortality. Fibrin adhesives have been shown to increase the strength of the anastomosis, and decrease the adhesions around anastomotic site. A recent study has shown that intraperitoneally applied gentamicin is able to enhance healing and stability of colonic anastomosis, which is due to an increase of both the overall collagen content and collagen type I/III ratio. In this study, we evaluated the effect of a combination of fibrin sealant and topical gentamicin on the colonic anastomosis in a rat model. 70 male Sprague-Dawley rats aged 6-10 weeks were used for the study. Partial anastomosis in the transverse colon was done using 6-0 Nylon (5 sutures). The rats were divided into 4 groups (control, gentamicin, fibrin glue, and gentamicin plus fibrin glue). On postoperative days 3 and 5, rats in each group were sacrificed, and the bowel loop, omental and liver adhesions; and anastomotic bursting pressures scores were determined. At the time of autopsy, rats which showed features of obstruction were excluded from the study. There were 9 rats in each group for day 3 anastomosis, and for day 5 anastomosis, there were 8 rats in the control and gentamicin only groups and 6 rats in fibrin glue and combination groups.

Day 3 anastomosis arm: The mean bursting pressures of the fibrin glue (76 mm Hg) and combination groups (75 mm Hg) were significantly higher when compared to the control group (57 mm Hg, $P=0.01$), but there was no effect by gentamicin alone (59 mm Hg). No difference was noted in the bursting pressures between fibrin glue only and the combination groups ($P=0.123$). Fewer bowel loops adherent to the anastomosis were noted in all 3 groups compared to the control group ($P<0.05$), and the number was similar between the fibrin glue and combination groups ($P=0.27$).

Day 5 anastomosis arm: The mean bursting pressures of the gentamicin (127 mm Hg), fibrin glue (147 mm Hg) and combination groups (149 mm Hg) were significantly higher when compared to the control group (113 mm Hg, $P<0.01$). Similar to day 3, no difference was noted in the bursting pressures between the fibrin glue only and the combination groups ($P=0.39$). Fewer bowel loops were adherent to the anastomosis of fibrin glue and combination groups when compared to the control and gentamicin alone groups ($P=0.01$), and the number was similar between the fibrin glue and combination groups ($P=0.22$). For both the anastomotic arms fewer omental and liver adhesions to the anastomotic site were noted with the fibrin glue and combination group when compared to the gentamicin and control group. But there was no difference between the fibrin glue only and combination group.

In conclusion, the combination of topical gentamicin and fibrin glue had little effect, since the combination did not provide any additional anastomotic strength or decrease the number of adhesions when compared to fibrin glue alone.

Rural EMS En Route IV Insertion Improves IV Insertion Success Rates and EMS Scene Time

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Introduction: Increased rural pre-hospital time is a factor that is associated with increased mortality rates in rural settings. Emergency Medical Service (EMS) personnel are trained to insert intravenous (IV) lines on trauma scenes if the time for insertion does not prolong scene time. Historically, rural EMS providers insert IVs on-scene at rates that are significantly higher than their urban counterparts. The purpose of this study was to prospectively assess whether IV insertion en route to the hospital is associated with decreased scene time and improved IV insertion rates.

Methods: A rural EMS provider provided data for a one-year period that included scene times and scene IV insertion data for all trauma patients. No IVs were started en route during this period. During the one-year period following the retrospective data collection, a study protocol was instituted in which all IV insertions for trauma patients were attempted in the ambulance while en route to the emergency room. Patients that required prolonged extrications or other scene delays were removed. This study period was performed prospectively with concurrent data collected regarding scene time and IV insertion data.

Results: During the one-year period prior to prospective protocol initiation, 306 trauma patients had IV attempts on-scene and 341 trauma patients had IV insertion attempts (en-route) during the one-year period of the prospective study protocol. When one IV attempt was made on-scene 84% (183/217) were successful with an average scene time of 18.8 minutes versus 96% (277/290) ($p<0.05$) successful single attempt en route IV insertions with an average scene time of 14.0 minutes ($p<0.05$). When two IV attempts was made on-scene 66% (40/61) were successful with an average scene time of 21.6 minutes versus 82% (37/45) ($p<0.05$) successful two- attempt en route IV insertions with an average scene time of 13.4 minutes ($p<0.05$).

Conclusions: EMS IV insertion en route to emergency rooms significantly decreases scene time and improves IV insertion success rates.

Impact of Antibiotic Concentration Evaluations in Intra-Abdominal Abscesses Percutaneously Drained

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Introduction: Intra-abdominal abscesses are a leading cause of surgical infections and are associated with a mortality rate up to 50%. Most surgeons rely on computed tomography to identify and drain abdominal abscesses with the material obtained sent for analysis. Appropriate antibiotic therapy plus prompt drainage are essential for optimal results; however, limited data exists regarding antibiotic concentrations in abdominal abscesses.

Objective: To determine how material obtained from abdominal abscess can facilitate clinical and microbiologic cures.

Methods: This prospective, observational study evaluated patients admitted to Detroit Receiving Hospital for two years ending August 2009. Patients were >18 years of age and had percutaneous drainage for one or more abdominal abscesses with the fluid submitted for bacteriologic and antibiotic evaluations. For an antibiotic to be considered appropriate, the organism isolated was susceptible, and the concentration was adequate. p -values<0.05 were considered significant. Data are expressed as mean \pm SD.

Results: The 47 patients evaluated were 49 \pm 13 years of age and 60% were male. The primary sources of infection were colon (34%), hepatobiliary (19%), and small bowel (17%). Two or more abscesses were present in 43%. Repeat drainage was required in 30%. Seventy isolates obtained in 27 patients consisted of gram positive aerobes (30%), gram negative aerobes (33%), anaerobes (23%), and fungi (14%). With gram negative aerobes, appropriate antibiotics resulted in a trend toward shorter LOS, 6.9 \pm 6.4vs13.6 \pm 10 days ($p=0.16$) and higher incidence of microbiologic eradication [100%vs50% ($p=0.22$)]. In patients with resistant gram negative aerobes, (*Acinetobacter* sp, *Pseudomonas* sp, *Enterobacter* sp), but receiving appropriate antibiotics, there were trends towards higher clinical cure, [100%vs25% ($p=0.08$)] and high microbiological eradication [100%vs50% ($p=0.22$)]. In 10 patients with 12 *Enterococcus* species (plus other organisms), failure to provide appropriate antibiotics did not affect outcome. In culture negative patients with appropriate antibiotics to treat the typical pathogens, a shorter LOS tended to occur [10.8 \pm 16.3vs15.4 \pm 12.8 days ($p=0.29$)]. Patients who had fungi on culture tended to have more clinical failure [56%vs23%, $p=0.08$], and if a fluconazole-resistant candida was cultured, microbiological recurrence was increased [50%vs0% ($p=0.04$)]. With ≥ 3 organisms identified, clinical failure was higher, [58%vs13%, $p=0.01$]. Patients who had their abscess diagnosed <5 days from admission were more likely to have microbiological eradication, [100%vs77%, $p=0.03$].

Based on the antibiotic concentrations in the abscesses: 1) vancomycin does not penetrate abscesses well, 2) piperacillin / tazobactam provides adequate concentrations in abscesses < 80 cm², 3) cefepime provides adequate concentrations in abscesses < 100 cm², 4) ciprofloxacin concentrations were inadequate, 5) metronidazole concentrations are adequate regardless of size, and 6) fluconazole doses should be increased from 400 mg to 800 mg daily.

Conclusions: When intra-abdominal abscesses are present, therapy with appropriate antibiotics and drainage should be provided promptly. Valuable information can be obtained from the organisms present and antibiotic concentrations.

International Trends in Surgical Treatment of Rectal Cancer

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Objective: To evaluate international trends in surgical treatment of rectal cancer.

Methods: Cross sectional survey in a cohort of experienced colorectal surgeons. Surgeons answered a questionnaire regarding rectal cancer management. Responses analyzed included surgical experience with rectal cancer, rectal anatomy, preoperative staging, chemo-radiation criteria, surgical technique, and criteria for local excision. Practice patterns were compared using bivariate and univariate analysis.

Results: Of 173 colorectal surgeons invited, 123(71%) responded. 28 countries were represented, mainly from North America, Europe and Asia. 78% are affiliated with a university hospital, 93% have more than 5 years experience with rectal cancer surgery and 70% are from departments performing more than 50 proctectomies annually. Most surgeons (50%) defined the rectum as "15 cm from the verge." Rigid proctoscopy was used by 81% to measure the distance of the tumor from the anal verge. For staging, 29% use endorectal ultrasound (ERUS), 35% use MRI, and 55% CT. 61% use preop chemo-radiation for all stage II and III tumors. 72% perform laparoscopic proctectomy, 80% oral bowel prep, 94% perform stepwise total mesorectal excision, with 69% performing high ligation of the IMA, 76% use diverting stomas for coloanal anastomosis, 63% use fast recovery protocols, 62% recommend local excision for T1N0 lesions. There were significant differences between US and non-US surgeons in several areas: 15 cm from the verge to define the rectum (34% vs. 59%, $p=0.03$), preop chemo-radiation for all stage II and III (92% vs. 44%, $p=0.001$), ERUS use (44% vs. 21%, $p=0.01$), MRI use (21% vs. 42%, $p=0.03$), personally perform laparoscopic resection (82% vs. 66%, $p=0.05$), rectal stump washout (36% vs. 73%, $p=0.0001$), always drain after surgery (23% vs. 42%, $p=0.03$), TEM for T2N0 in medically unfit patients (39% vs. 61%, $p=0.0001$), postop adjuvant chemotherapy to stage II and III (77% vs. 34%, $p<0.0005$).

Conclusion: Wide variation in rectal cancer management protocols exist internationally, confusing the literature and making outcome comparisons challenging. Study groups should continue collaboration, encouraging further international studies and consensus development

Continuity of Care in a Rural Critical Access Hospital: Surgeons as Primary Care Providers

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Hopedale Medical Complex

Background

The need for general surgeons is especially critical in rural America, where 20% of the population is served by 11% of the physician workforce. The perception that outcomes from major surgical procedures are superior in urban centers may be a major factor hampering the recruitment of qualified surgeons to rural hospitals. Hopedale Hospital, a 25 bed acute care facility in rural Central Illinois, is one of 1500 critical access hospitals in the U.S. Three board-certified general and vascular surgeons provide 90% of the primary care and 95% of the surgical volume at the facility. The purpose of this study was to compare our outcomes to those in the available surgical literature in order to establish benchmarks to facilitate future outcomes analysis.

Methods

We reviewed data from five of the most commonly performed surgical procedures at Hopedale Hospital, including: carotid endarterectomy, laparoscopic cholecystectomy, laparoscopic Nissen fundoplication, total abdominal hysterectomy, and inguinal hernia repair. For each procedure 100 consecutive cases ending in August 2009 were analyzed. Data was collected on each patient's demographic information, co-morbidities, and 30-day outcome with 100% follow-up. Complications specific to each procedure were determined by retrospective chart review. In order to compare our results to existing quality of care metrics, a Medline search was performed and articles evaluating populations in each of the five aforementioned procedures were identified and reviewed.

Results

Carotid Endarterectomy: Hopedale's outcomes were superior to those reported in the CAVATAS, SPACE, and EVA-3S studies, with a 1% stroke and/or death rate versus 9.9%, 6.3%, and 3.9%, respectively.

Laparoscopic Cholecystectomy: Hopedale's 0% bile duct injury and mortality rates were comparable to the 0.4% and 0.02% reported in Orlando et al, and it's 1% overall wound infection rate within the 0.51% to 1.1% range reported by Shea et al.

Laparoscopic Nissen Fundoplication: Hopedale's intraoperative complication, esophageal dilation, and re-operation rates of 1% each were significantly lower than Eshraghi et al's respective 8%, 3.2% and 3.2% rates.

Total Abdominal Hysterectomy: Hopedale's postoperative complication rate of 7% was significantly lower than Meltomaa et al's postoperative complication rate of 28.3%.

Inguinal Hernia Repair: Hopedale's 4% postoperative complication rate was significantly below Neumayer et al's reported 19.4% rate.

Conclusions

At Hopedale Hospital, superior outcomes are supported by 100% follow-up of all surgical cases, with an excellent patient satisfaction rating of 94.7%. The practice model that achieves these results is ideal and may help recruit medical students into rural surgery programs.

-17-

Comparative Effectiveness and Efficiency in Peripheral Vascular Surgery

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Cost-effective surgical care requires objectively determined outcomes and costs for hospitalized patients that can serve as the foundation for the development of "bundled" payments of episodes of care for hospitals and physicians together.

Methods: We studied elective carotid endarterectomy, aortofemoral bypass/aortic aneurysm repairs, and femoral-distal bypass operations from 2002-2005 from the National Inpatient Sample of the Healthcare Cost and Utilization project. Only elective operations performed within two days of admission in hospitals with ≥ 20 cases for the study period were included in the analysis. Risk-adjusted length of stay (LOS) and mortality models defined adverse outcomes (AOs) using an algorithm of control chart, logistic, and linear models. Risk-adjusted costs of uncomplicated cases and excess costs of AOs were defined by conversion of charges with cost-to-charge ratios. All predicted costs were adjusted for regional variability and indexed to 2005. Effective and efficient hospitals were reference facilities, and this reference group allowed computation of excess AOs and excess costs due to comparatively ineffective and inefficient outlier hospitals ($p < .001$) defined by statistical criteria.

Results: For elective carotid endarterectomy, there were 43,700 patients from 447 hospitals with 126 deaths and a total of 2,343 AOs. There were 329 cost-effective hospitals with AOs of 4.9%; 11 comparatively ineffective hospitals had AOs of 10.2%. Cost-effective hospitals had average costs of \$5,762, while 107 comparatively inefficient hospitals had quality outcomes but risk-adjusted costs of 37% more per case.

For elective aortofemoral bypass/aortic aneurysm repair, there were 9,090 patients from 187 hospitals with 264 deaths and 985 AOs. There were 156 cost-effective hospitals with AOs of 10.7%; 6 comparatively ineffective hospitals had AOs of 14.7%. Cost-effective hospitals had average costs of \$19,655, while 25 comparatively inefficient hospitals had quality outcomes but risk-adjusted costs of 36.5% more per case.

For femoral-distal bypass grafts, there were 14,543 patients from 243 hospitals with 161 deaths and a total of 1,020 AOs. There were 216 cost-effective hospitals with AOs of 6.7%; 12 comparatively ineffective hospitals had AOs of 12.4%. Cost-effective hospitals had average costs of \$11,635, while 20 comparatively inefficient hospitals had quality outcomes but risk-adjusted costs of 38.7% more per case. When examining all three vascular procedures together, hospitals that were comparatively ineffective had per case cost profiles similar to cost-effective reference hospitals. Comparatively inefficient hospitals had rates of AOs similar to reference hospitals, but had costs $> 35\%$ more per case.

Conclusions: Excess costs in vascular surgery are mainly attributable to inefficiency and not quality outliers. While continued improvements in quality of outcomes in vascular surgery is essential, the greatest impact on costs for bundled payment strategies will be in economic stewardship by surgeons of hospital resources.

-18-

Prospective Randomized Controlled Trial of Traditional Laparoscopic Cholecystectomy versus SILS™ Port Laparoscopic Cholecystectomy

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Introduction:The first cholecystectomy was performed in 1882 by vanGulik. Nearly 100 years later, in 1985, Muhe performed the first laparoscopic cholecystectomy. Since that time, laparoscopic cholecystectomy has emerged as the gold standard approach. Single Incision Laparoscopic Surgery (SILS™) cholecystectomy was first described in 1995 when Navarra et al. performed the SILS™ procedure on 30 patients and reported favorable outcomes. This study presents preliminary data from a prospective randomized multi-center, single blinded trial of SILSTM cholecystectomy versus standard laparoscopic cholecystectomy with the goal of assessing the feasibility and safety of performing SILS™ chole versus four port laparoscopic cholecystectomy (4PLC).

Methods: Patients with a diagnosis of biliary colic with documented gallstones or polyps by imaging or biliary dyskinesia with documented EF < 30% were randomized to SILS™ Port cholecystectomy vs. 4PLC in a 1.5-to-1 ratio. Patients were blinded to the treatment to which they were randomized and remained blinded for the first post-operative week. Data collection included operative time, estimated blood loss, length of hospital stay, length of skin and fascial incisions, adverse events, and conversion to 4PLC procedure. In addition, pain, satisfaction and cosmetic scoring was performed by the patient.

Results:Operative times were significantly longer with SILS™ cholecystectomy (n=50) versus 4PLC (n=33). No differences were seen related to blood loss, significant adverse events, nor in "average pain" or "worse pain" scores. Photo series questionnaires rating the scars at 1,2,4, and 12 weeks all showed significantly higher scores for SILS™ cholecystectomy. Body image scores at 2 and 4 weeks, and Cosmetic scores at 1,2,4, and 12 weeks were significantly higher for SILS™ cholecystectomy. At 1,2,4, and 12 weeks, 81-89% of SILSTM cholecystectomy patients would prefer a SILS™ chole if needed in future. At 1,2,4, and 12 weeks, 39-67% of 4PLC patients would prefer a SILS™ cholecystectomy if needed in future. At 1,2,4, and 12 weeks, only 0-11% of SILS™ chole and 4PLC patients would prefer a 4PLC cholecystectomy if needed in future. Overall, satisfaction scores with SF-8 and SF-12 scoring systems, however, were similar for SILS™ and 4PLC at all time periods.

Conclusions: Preliminary results of this prospective comparative trial showed SILSTM chole to be safe as compared to 4PLC with similar pain scores, although operative times were significantly longer. Cosmetic scores were higher for SILS™ chole as compared to 4PLC. Satisfaction scores were similar although both groups reported a significantly higher preference towards SILS™ chole if cholecystectomy needed in the future. Overall, SILS™ cholecystectomy appears to be safe with similar pain and satisfaction scores to standard laparoscopic cholecystectomy. Further randomized studies are still needed to determine if the identified cosmetic advantage gained by this procedure is not offset by altered patient outcomes.

Local recurrence following partial mastectomy (PM)

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Background: Local recurrence following partial mastectomy (PM) has been associated with inadequate surgical margin clearance at initial surgery. Re-excision rates of 20-50% are reported, with enormous implications for both patients and healthcare spending. We have continuously maintained a Breast Cancer Surgery Outcomes database (BRCASO db), focusing on quality of initial surgical treatment for 6 years. In this study we performed our first linkage of initial surgical outcomes following partial mastectomy with ipsilateral breast local recurrence in our hospital tumor registry (TR db). The purpose of this study was to determine if margin status following initial PM, independent of any subsequent re-excision, was associated with local recurrence in PM patients receiving postoperative radiation therapy (RT).

Methods: The BRCASO db has detailed surgical outcomes on all initial breast cancer surgeries, with all closest pathologic margins measured and directional margin status and re-excision status recorded. Linkage was performed with the TR db for data regarding RT received, and ipsilateral local recurrence (LR).

Results: 1023 patients underwent initial surgery from March 2003-Dec 2008. Initial PM was performed in 758 (74.1%). Linkage with TR db was 100%. For LR analysis we excluded 21 patients with a prior ipsilateral breast cancer, and 25 who underwent subsequent total mastectomy within 6 weeks for margin management, leaving 712 with a final procedure of PM. Initial re-excisions were performed in 95 patients (13.3%) with 10 patients undergoing two re-excisions (1.3%).

Of these, 598 (84.0%) underwent adjuvant RT, 88.8% for invasive cancer. Among these 598 patients, positive or <1mm margins were identified following initial PM in 166 patients (27.8%) with all positive margins re-excised, and the majority of DCIS margins <1mm re-excised, but not <1mm invasive margins. 431/598 (72.2%) patients had > 1mm margins following initial PM and none were re-excised.

At a mean follow-up of 2.5 years, we observed 6 ipsilateral LR (1.0%) in the RT group: 4/167 (2.4%) with initial margins <1mm and 2/431 (0.5%) with initial margins > 1mm, (p=0.054, Fisher's exact test). For the 114 patients not receiving RT, LR was observed in 3 (2.6%) with 2 occurring in patients with initial margins >1mm.

Conclusions: Breast cancer patients treated by PM and RT post-op demonstrates lower LR rates than traditionally reported, despite a PM re-excision rate which is lower than traditionally reported. Mean follow-up in this study, however, remains short. Patients with initial <1mm or positive margins at first PM appear at higher risk of LR. The impact of re-excision in this group cannot yet be determined. Surgical practice of re-excision for 1-3 mm margins needs closer scrutiny as this practice may not impact LR in patients receiving RT.

Longer term follow-up and an NIH funded multicenter breast cancer surgery outcomes project has been initiated. The goals of this project will be to determine variability in current surgical management of close margins following partial mastectomy among surgeons across the United States.

Long-Term Outcomes of Laparoscopic TEP Inguinal Hernia Repairs Performed by Supervised Surgical Trainees

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Background: Outcomes of the laparoscopic totally extraperitoneal (TEP) inguinal hernia repair are dependent on surgeon experience and skill. Due to its complexity, the TEP repair is usually introduced later in the training of general surgery residents, typically after laparoscopic cholecystectomy and appendectomy. Along with reduced work-hours, this approach might not allow for sufficient exposure to the TEP repair. We report our long-term experience with early introduction of the TEP repair to novice surgical residents.

Methods: We reviewed medical records of all laparoscopic TEP inguinal hernia repairs performed by surgical trainees under the supervision of a single staff surgeon. Demographic, operative, and follow-up information was obtained by a combination of medical record review, physical exam, telephone interview, and mailed survey.

Results: From 1995 to 2009 a total of 1479 inguinal hernia repairs on 976 patients were performed by surgical trainees under the supervision of a single staff surgeon. Mean patient age was 54 years (range 5-86) with males predominating (97%). Bilateral repair was performed on 503 (52%) patients. Direct defects were more common (51%), and 17% of patients presented with recurrent hernias. Trainee participation consisted of interns (46%), PG-2s (10%), PG-3s (2%), PG-4s (3%), and chief residents (39%). Median operative time was 78 minutes (range 30-167) for unilateral and 90 minutes (range 28-248) for bilateral repairs. Intraoperative bleeding was encountered 5 (0.5%) times from the epigastric vessels, and 3 (0.3%) conversions to open repair occurred due to scarring after open prostatectomy. Of the 976 patients, 816 (84%) were discharged home the same day. Postoperative complications consisted of urinary retention (8%), seroma (3%), and hematoma (2%). With a mean follow-up of 5.3 years, 32 (3%) patients report mild chronic groin pain and 15 (1.5%) patients had a recurrence, with nine of these occurring within the first 110 cases.

Conclusions: With adequate supervision, surgical trainees can safely perform the TEP repair with good long-term outcomes. Early introduction of the TEP repair to general surgery residents may help increase exposure and accelerate the learning curve of the TEP repair.

Disparities Between Resident and Surgeon Perceptions of Intra-Operative Teaching

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Purpose: The study was designed to assess surgeon and resident perspectives on intra-operative teaching and to analyze and compare respondent narratives describing personal experiences of effective and ineffective operative teaching.

Methods: We surveyed US surgeons and residents about the frequency of 26 intra-operative teaching behaviors using a 5-point Likert scale (Never = 1, Always = 5). Respondents were also asked to describe their most and least satisfactory personal intra-operative learning experiences, describing what made the interchange positive or negative. Demographic data including program name, surgical discipline, gender and PGY level or years of experience in practice were requested. The survey was distributed nationally on SurveyMonkey.com between December 2009 and February 2010. Questions were analyzed individually, in aggregate, and by groups of behaviors based on the six core competencies. Analysis included the student t-test seeking 95% confidence after Bonferroni correction. Narrative responses were subjected to aggregate thematic analysis.

Results: 344 resident and 191 surgeon surveys were completed (51 programs, 26 states). Thirty-three percent provided demographic information. Residents described intra-operative teaching behaviors by faculty surgeons as occurring substantially less frequently than surgeons reported performing these behaviors ($p < 0.0001$). However, both agreed that non-verbal teaching cues were frequent and that feedback (when given) was helpful. Resident and surgeon reports differed most substantially for behaviors related to patient care (including technical skills) and communication ($p < 0.0001$). Neither gender nor years of surgical experience explained these results, although female respondents remembered communicative behaviors more frequently than male respondents ($p < 0.001$). No differences were observed between junior and senior residents or surgeons in practice for less than or more than 10 years. Narrative responses among both surgeons and residents consistently identified trainee autonomy, teacher confidence and direct, continual communication as positive, while negative experiences overwhelmingly included contemptuous, arrogant, accusatory, or uncommunicative personalities, as well as minimal or no opportunity to operate independently. Respondents consistently indicated that open communication, constructive feedback and patience enhanced learning experiences. Of note, surgeons generally remembered earning their operative experiences as favorable, while residents described having to earn procedural experience as unfavorable.

Conclusion: Substantial disparities exist between resident and faculty perceptions of the frequency and characteristics of intra-operative teaching. Moreover, common memorable experiences among veteran surgeons and current trainees suggest that little has changed. These results suggest substantial room for improvement of intra-operative teaching.

Nodal Positivity Correlated to the Number of Lesions after the Use of Magnetic Resonant Imaging in Breast Cancer

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Introduction: Magnetic Resonance Imaging (MRI) has been evaluated in breast cancer (BrCa) with variable result. The long term impact of additional lesions detected by MRI is still unclear. We aimed to evaluate the nodal positivity of multiple BrCa lesions detected by MRI compared to single lesion.

Methods: A retrospective analysis of our BrCa database was performed. All patients (pts) were diagnosed with BrCa between 2003-2009 and underwent both MRI and mammogram at the time of diagnosis. The main objective was nodal positivity for pts with additional lesions detected by MRI compared to pts with single lesion detected by mammogram. Exclusion criteria were: use of neoadjuvant chemotherapy and lesions not detected by MRI due to post biopsy enhancement. Chi-Square test was used for statistical analysis.

Results: A total of 362 consecutive pts with mammographically detected lesions were included. Of these, MRI detected lesions in 284 pts (78.4%). The median age was 61.5 years. Of these 284 pts, 36 pts (12.7%) were found to have in situ disease and were excluded from the nodal positivity analysis. The overall nodal positivity was 26.2% (65/248). MRI detected multiple lesions in 71 (25%) pts and single lesion in 213 (74.5%) pts. The additional lesions detected by MRI were ipsilateral in 51 pts (18%), contralateral in 16 pts (5.6%) and both ipsi- and contralateral in 4 pts (1.4%) . MRI detected additional multiple lesions, not detected by mammogram in 57 (20.1%) pts. The nodal positivity was 37.9% when two or more lesions were detected, compared to 21.9% when a single lesion was detected ($P=0.01$). Including pts with additional lesions detected by MRI only (57 pts), the nodal positivity was 35.8%, compared to 21.9% when one lesion was detected. ($P=0.04$, table 1). In these 57 pts with only additional MRI lesions, 25 had malignant additional lesions (nodal positivity 50%) and 28 had additional benign lesions (nodal positivity 21.4%). The nodal positivity was significantly higher when multiple malignant lesions were detected by MRI, compared to single lesion in all T stages.

Conclusion: Our study shows a significant increase in the nodal positivity when multiple lesions are detected using MRI. This may have impact on the long term outcome of these pts.

Optimum Repair for Massive Ventral Hernias in the Morbidly Obese Patient – Is Panniculectomy Helpful?

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INTRO: Management of the morbidly obese patient with a massive abdominal wall defect is a challenging problem with no ideal approach. The excess soft tissue associated with a large pannus can lead to eventual hernia repair disruption. Initial gastric bypass for weight reduction has been proposed for these difficult situations; however certain patients with active contamination, fistulas, and loss of domain hernias are not candidates for weight loss surgery. Complex abdominal wall reconstruction (CAWR) with simultaneous panniculectomy is a potential option for these patients. The extensive dissection required for simultaneous panniculectomy might result in increased perioperative morbidity. We reviewed our experience with CAWR in morbidly obese patients with massive defects.

METHODS: Morbid obese (BMI >40) patients undergoing open complex abdominal wall reconstruction for large abdominal wall defects from June 2007- January 2010 were retrospectively identified. Perioperative variables assessed included: age, gender, BMI, surgical indication, defect size, operative time, contamination at surgery, postoperative complications and length of stay. Statistical analysis consisted of Fisher's exact and Mann-Whitney rank test where appropriate with a p-value of < 0.05 considered significant.

RESULTS: 30 morbidly obese patients (BMI range: 40-60.6 kg/m²) with massive defects (avg: 578 cm²; range 91-2450) underwent CAWR with 20 undergoing simultaneous panniculectomy (CAWR-P). Pannus weight in CAWR-P averaged 11 lbs (range: 3.4-22lbs). Surgical indication for most CAWR-P patients was loss of domain hernia (57%) while removal of infected mesh (25%) and fistula takedown (33%) were common in CAWR. CAWR-P compared to CAWR had similar characteristics: age (58 vs. 57 yrs; p=0.57), gender (80% vs. 70% female; p=0.66), BMI (44 vs. 43 kg/m²; p=0.16), prior surgeries (4 vs. 3.5; p=0.69), prior repairs (2 vs. 1.5; p=0.50), defect size (594 vs. 544 cm²; p=0.92), contamination (50% vs. 70%; p=0.44) and OR time (242 vs. 253 min; p=0.89). The CAWR-P group had greater overall postoperative complications (85% vs. 30%; p=0.005) and wound complications (75% vs. 40%; p=0.07) compared to CAWR patients. Major wound complications requiring operative debridement occurred in 30% of CAWR-P compared to 10% of CAWR (p=0.23). CAWR-P versus CAWR had longer hospital length of stay (14.5 v 10.2 days; p=0.2). One postoperative mortality occurred in each group.

CONCLUSIONS: Simultaneous panniculectomy in the setting of open complex abdominal wall reconstruction in the morbid obese with massive defects is a feasible option but associated with high post-operative complications. While panniculectomy offered early weight loss of up to 22 pounds, it was associated with an overall wound complication rate of 75% with 30% of patients requiring operative debridement. Studies comparing differences in hernia recurrence between CAWR and CAWR-P are important in evaluating the long-term utility of simultaneous panniculectomy in the repair of massive defects in the morbid obese.

Impact of Primary Omentectomy on Longevity of Peritoneal Dialysis Catheters in Children

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Purpose: The purpose of this study was to determine whether the performance of an omentectomy at the time of peritoneal dialysis catheter placement directly impacted catheter failure rates in pediatric patients with acute and/or chronic renal failure.

Methods: A retrospective review of patients undergoing peritoneal dialysis catheter placement at a tertiary care, pediatric hospital was performed from January 1986 through August 2008. Data collected included etiology for renal failure, performance of omentectomy, type of catheter, reason for catheter failure, and time to initial failure. Children were segregated into those undergoing catheter placements with omentectomy (Group 1) or without (Group 2).

Results: A total of 204 patients were identified over the nearly 22-year period. Forty-one patients were excluded secondary to incomplete data or death unrelated to catheter placement. One hundred sixty-three patients were then reviewed. There were 80 male patients with a 1:1.03 male:female gender ratio. Mean patient age was 6.25 ± 5.58 years. Hemolytic uremic syndrome was the most common indication for catheter placement (32%).

Eighty-seven patients (53%) underwent omentectomy at the time of catheter placement; whereas, 76 did not. Catheter failure was observed in 63 children within the studied population (39%). Catheter obstruction from either omentum or fibrinous debris was identified in 36% of the catheter failures ($n=23$). Peritonitis led to failure in 9.8%, overall. Catheter failure rate was significantly reduced with the performance of omentectomy (23% without omentectomy vs. 15% with omentectomy, $p=0.0054$, chi-square analysis). Neither the etiology for renal insufficiency or failure nor the type of catheter utilized had a statistically significant impact on catheter failure rates ($p>0.78$ and $p>0.26$, respectively, chi-square analysis). Median time to catheter failure was greater in Group 1, but did not reach statistical significance in group comparison (759 days Group 1 vs. 280 days Group 2, $p=0.13$ by log-rank test).

Conclusion: The use of omentectomy conferred improved utility of peritoneal catheters in children. The additional technique of omentectomy in the placement of peritoneal catheters appears to be useful in the treatment of children undergoing peritoneal dialysis for acute or chronic renal failure.

Support for a Postresection Prognostic Score for Pancreatic Endocrine Tumors

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Introduction/Background: The incidence of pancreatic adenocarcinoma has remained stable, while the incidence of pancreatic neuroendocrine tumors (PNETs) has increased. The natural history of these tumors is poorly defined, and limited information is available with regards to factors affecting survival after resection. Recently, prognostic scores (PS) utilizing the National Cancer Data Bank (NCDB) predicting long term survival of patients with PNETs have been created. The purpose of this study was to determine if this scoring system predicts survival for patients undergoing resection of a PNET at a single institution.

Methods: All patients who underwent resection for pancreatic tumors at a single institution from 1996 – 2005 were reviewed. Tumors in which the final pathological diagnosis was of a PNET were further studied. Clinicopathological and survival data were collected on each patient. Prognostic scores based on patient age, tumor grade, and presence of metastases was calculated. The raw score was calculated by adding up the total number of points. PS were defined as PS 1 = raw score 0, PS 2 = raw score 1-2, PS 3 = raw score >2. Observed survival was then compared to predicted survivals established by an accepted post-resection prognostic score for PNETs.

Results: Since the beginning of 2000, a 50% increase in surgical resections for PNETs was observed, with a total of 41 PNETs being identified. Although, increasing in incidence, PNETs were relatively rare, and accounted for approximately 3% of all pancreatic neoplasms found. Outcomes based on these scores are shown in the table below.

Discussion/Conclusion: Patients with PNET prognostic scores of 1 had better overall survival when compared to those with prognostic scores of 2 or 3. Recently established PNET post-resection prognostic score categories are useful tools in the prediction of long term survival of patients suffering from PNETs, and will help dictate follow up surveillance and treatment.

Incidence of Small Bowel Obstruction Following Laparoscopic and Open Colorectal Resection

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Specific Objective - Each year in the United States small bowel obstruction (SBO) is responsible for more than 1 million inpatient hospital days and over \$1 billion in health care costs. Intraabdominal adhesions form in 95% of patients undergoing open abdominal surgery and are the cause of ~70% of SBO.

Minimally invasive surgical techniques offer many potential advantages and purport to result in less tissue trauma and adhesions. We sought to evaluate whether laparoscopic colorectal surgery resulted in a decreased incidence of SBO within the first year of surgical resection compared to an open approach.

Methods - From January 2003 to December 2008, 787 patients underwent colorectal resection by one of three colorectal surgeons at a tertiary referral hospital. A retrospective analysis of hospital admissions up to 1-year following initial resection identified patients admitted for conservative or surgical management of SBO, ileus or nausea and vomiting.

Results - Three hundred and thirty-nine patients underwent open colorectal resection and 448 patients underwent laparoscopic (Lap) colorectal resection. During the 1st year post surgery, 6 patients in the open group developed SBO (3 treated conservatively, 3 treated surgically) and 5 patients in the Lap group developed SBO (3 treated conservatively, 2 treated surgically). The overall frequency of SBO for the open group was 1.8% and 1.1% for the Lap group ($p < 0.5461$). When comparing 330 low anterior resections (LAR) (2 SBO – 1 from Lap, 1 from open LAR) vs. 457 other procedures (9 SBO – 4 from Lap, 5 from open procedures), 58 left hemicolectomies (0 SBO) vs. 237 right hemicolectomies (4 SBO – 1 from Lap, 3 from open procedures) and 425 colon resections (8 SBO – 4 from Lap, 4 from open procedures) vs. 362 rectal resections (3 SBO – 1 from Lap, 2 from open procedures) no difference in incidence of SBO within the 1st year of surgery was observed ($p = NS$).

Conclusion - No difference in the incidence of SBO within the 1st year of surgery was found between patients undergoing open vs. laparoscopic colorectal surgery. Although other advantages such as quicker postoperative recovery and shorter hospital stay have been attributed to laparoscopic surgery, decreased tissue manipulation does not appear to result in a decreased incidence of SBO with the 1st year of surgery.

-27-

Hashimoto's Thyroiditis: Outcome of Surgical Resection for Patients with Thyromegaly and Compressive Symptoms

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Background: Hashimoto's thyroiditis (HT) is the most common cause of diffuse goiter and hypothyroidism in the United States. There is a perception that the surgical morbidity is higher in patients with HT and thyroidectomy is rarely performed. The purpose of this study was to determine the indications for surgical intervention and outcome and in patients with HT.

Methods: All patients with pathologically-confirmed HT were identified from a prospectively maintained database of all patients who underwent thyroidectomy from 1990-2010. Patients whose principle diagnosis was HT who underwent thyroidectomy were identified and were further evaluated for demographics, presenting symptoms, and outcome of surgical therapy.

Results: HT was documented in the pathology reports of 216 patients. It occurred in association with some other primary lesion in 184 (85%) patients. HT was the principle diagnosis in 32 (15%) patients, all of whom had unilateral or bilateral thyroid enlargement and compressive symptoms. 31 (97%) patients were female. Presenting symptoms included: dysphagia in 23 (72%), dyspnea in 18 (56%), choking spells in 11 (34%), hoarseness in 11 (34%) and neck pain and tenderness in seven (22%) patients. Twenty five (78%) patients had nodular disease palpable in the thyroid gland and 12 (38%) patients had retrosternal thyroid extension. The average weight of the excised thyroid tissue was 78g (range = 12-300g). Symptom resolution occurred in 30 (94%) patients and symptom improvement in two (6%) patients following total thyroidectomy in 21 (66%) and thyroid lobectomy and isthmusectomy in 11 (34%) patients. Twelve (38%) patients developed transient hypocalcemia. No patient developed a neck hematoma, recurrent laryngeal nerve injury or permanent hypoparathyroidism. One patient had an incidental focal B-cell lymphoma of the thyroid gland.

Conclusion: HT is a cause for nodular thyroid disease, thyroid lymphoma and thyromegaly with impingement on vital structures in the neck. The selective use of thyroidectomy for patients with HT and compressive symptoms is safe and effective.

-28-

Alvimopan Significantly Decreases Hospital Stay Following Laparoscopic Colon And Rectal Resection

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BACKGROUND: The main limiting factor in postoperative hospital stay following colon and rectal resection is return of bowel function. Alvimopan, a selective mu-opioid receptor antagonist, has been shown to decrease the time to return of bowel function and hospital length of stay following bowel resection. Initial studies on alvimopan were performed in open intestinal resections, and there is little data on its use in laparoscopic colon resections and rectal resections. The purpose of this study was to compare hospital stay with and without the use of alvimopan in laparoscopic colon and rectal resections.

METHODS: A retrospective database review was performed on all patients undergoing laparoscopic colon and rectal resections at the Kendrick Regional Center between January 2008 through January 2010. Alvimopan became available to our practice in October 2008. Thus, patients were grouped by no alvimopan use (January 2008 through September 2008) and alvimopan use (October 2008 through January 2010). Pharmacy records were queried to verify alvimopan administration. The primary endpoint was hospital stay, and patients were further stratified by anatomic resection. Data were compared using one-way ANOVA with post-hoc Tukey multiple comparison test, $p < 0.05$ considered statistically significant.

RESULTS: Alvimopan use resulted in a significantly shorter hospital stay (4.3 ± 0.2 vs. 5.7 ± 0.3 days without alvimopan, $p < 0.0001$) following laparoscopic colon and rectal resection. When stratified by anatomic site of resection, alvimopan shortened hospital stay in laparoscopic left colectomy (3.7 ± 0.2 vs. 5.3 ± 0.5 days, $p < 0.001$) and laparoscopic rectal resection (5.0 ± 0.4 vs. 6.7 ± 0.6 days, $p < 0.05$). There was trend toward shorter hospital stay in laparoscopic right colectomy (4.6 ± 0.3 vs. 5.2 ± 0.5 days), but this did not reach statistical significance. A secondary analysis of extended hospital stay, defined as greater than 7 days, showed that alvimopan use resulted in fewer extended hospital stays (4 out of 116 patients, 3.4%) compared to the non-alvimopan group (17 out of 110 patients, 15.4%).

CONCLUSIONS: Alvimopan decreased absolute hospital length of stay and lowered the incidence of extended hospital stay. These results support alvimopan administration in laparoscopic colon and rectal resection.

Outcome of Plastic Closure of Abdominal Wall Defects In Gastroschisis

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University of Iowa Hospitals and Clinics

Introduction: Gastroschisis is a congenital ventral abdominal wall defect. The intestines and abdominal viscera develop outside the abdomen and are exposed to amniotic fluid. When the defect is small, lymphatic, venous and intestinal obstruction may occur and contribute to the formation of intestinal edema, atresia, ischemia and a thick inflammatory peel. Treatment requires early coverage of abdominal contents either by primary fascial closure or placement of temporary Silastic silo followed by abdominal wall closure. A different repair called plastic closure of gastroschisis has been reported. The goal of the current study is to evaluate the clinical outcomes of the plastic closure for gastroschisis.

Methods: A retrospective case control study of 80 patients treated between 2000 and 2009. Plastic closure was used in 52 and traditional abdominal wall closure in 28 babies. The surgical procedure was determined by surgeon preference. Of the 31 babies requiring silos, 15 were treated with plastic closure and 16 underwent traditional closure. We collected the following demographics data: sex, birth weight, gestational age, presence of a prenatal ultrasound, APGAR scores, and age at last follow up. Using SAS 9.2, we conducted linear regression, logistic regression, and time to events model to compare the following outcomes: days on ventilator, days to enteral feeds, days to goal feeds, days on total parenteral nutrition, hospital charges, length of stay, mortality and complications.

Results: There were two mortalities. The mean length of follow up was 11.4 months. Patients spent an average of 6 days on the ventilator. Multivariate analysis demonstrated that compared to traditional suture closure, patients treated with plastic closure spent 3.62 days fewer days on the ventilator ($P=0.0231$). Ventral hernias were noted in 46 patients, 32 of 52 following plastic closure. Hernia repair was required in 16 (20%) patients, 11 (21%) following plastic closure and 5 (18%) following traditional repair ($CI=0.234-3.603$). When the entire cohort was considered, there was no significant difference between plastic and traditional closure in time to start feeds, time to reach goal feeds, hospital charges, length of stay, or complications. In the silo cohort, children treated with plastic closure required 6.4 fewer days to start enteral feeds than those treated with traditional closure ($P=0.0213$).

Conclusion: Plastic closure of abdominal wall defects in gastroschisis is effective both as a primary procedure or following silo placement. We did not find a difference in complications between plastic and traditional closure. However, in multivariate analysis, plastic closure was associated with fewer ventilator days, which may decrease the potential risk of barotrauma, ventilator associated pneumonia, and tracheal stenosis.

-30-

Isolated Venous Injuries to the Extremities

Tarras SL, Diebel LN

Wayne State University, Detroit,MI

Introduction: Venous injuries in the extremities are frequently encountered following penetrating trauma. Most often, however, they are diagnosed during exploration for concomitant arterial injury. The diagnosis and management of isolated venous injuries is more problematic and served as the basis for this study.

Methods: A retrospective chart review, from a Level I and Level II trauma centers, of isolated extremity venous injury following penetrating trauma was conducted over a 5-year period. Data collected included signs and mechanism of vascular injury, indication for exploration, imaging prior to operation, management, and outcomes.

Results: 23 patients (10%) from a total of 225 patients with penetrating vascular trauma to the extremities had isolated venous injury. Most injuries were due to gunshot wounds (16) followed by stab wounds (4) and lacerations (3). The locations of the injuries were as follows: 15 patients (65%) had lower extremity injuries (femoral (7), popliteal (5), calf (1), saphenous (1), anterior tibial (1)); 8 (35%) patients had upper extremity venous injuries (axillary (2), brachial (2), cephalic (2), forearm (2)). There were 8 patients (35%) that presented with hypotension, and 2 patients that presented in profound shock. Signs of vascular injury leading to exploration were as follows: profuse venous bleeding (14), diminished pulses (4), large hematoma (3) and a large hematoma with neurologic symptoms (1). There were 3 patients that underwent angiography, which demonstrated a normal arterial supply; otherwise no other vascular imaging of the extremity was undertaken. 17 patients underwent other radiology imaging, which included x-ray films of the extremities and imaging of associated injuries. Mortality was 13%, which involved the two patients that arrived in extremis and another who subsequently died from associated non-vascular injuries. 21 patients underwent operative intervention: 17 (81%) venous ligations and 4 (19%) venous repairs. These repairs included 2 lateral venorrhaphies and 2 primary anastomoses. On follow-up none of the patients who had venous repair had any complications reported. The 4 patients that received duplex ultrasound for symptoms in their injured lower extremity were in patients that had ligation of their venous injury and all had a DVT distal to their ligation. The 3 (14%) patients that had post injury neuropathic pain symptoms in the injured extremity had vein ligation (2 lower extremity and 1 upper extremity) and only 1 of these was hypotensive at presentation.

Conclusions: Significant isolated venous injury to the extremity can occur following penetrating trauma and usually presents with "hard signs" of vascular injury that mandate immediate exploration. If an arterial injury has been excluded, and these patients have a large or expanding soft tissue hematoma, proximity injury, neurological symptoms or other "soft signs" of vascular injury, they may have an isolated venous injury. If a patient is stable to undergo further diagnostic work up this may include a multi-row detector (64-slice) CT angiography. These patients may then undergo a more selective exploration for injuries that prove to involve major venous structures or require surgical decompression.

-31-

Epidemiology of Trauma in a Level One Trauma Center. The Aging Population Increases The Incidence of Falls in Northwest Ohio

Olorunto W, Serrano PE, Gupta V, Higgins AJ

University of Toledo, Toledo, OH

Introduction

Trauma is one of the leading causes of morbidity and mortality. It is the fourth most common cause of death among all ages. This research describes the pattern and frequency of traumatic injuries. The objective is to identify areas of research to guide injury prevention programs and policies in the hospital and community.

Methods

Retrospective data was collected on 1285 patients admitted to a Level one trauma center during a 12 month period during 2008. Data collected included age, gender, race, type and mechanism of injury, anatomical location, injury severity score, length of stay, time of admission and discharge disposition. Frequency and percents were calculated for all variables.

Results

The mean age was 48 years. The majority were male (61.4%), ages 30-49 years. Most patients were admitted in July (11.51%), on Mondays (15.49%) during the late afternoon hours (34%). The mean ISS was 6.89, highest among patients older than 70 years (mean: 7.63). The most commonly injured areas were lower extremity (40.39%) and head (37.27%). The leading mechanisms of injury were falls (45.75%) and motor-vehicle collisions (29.26%). The majority of falls were from standing (70%), 50% of them were older than 70-years (mean 64-years) with a mortality rate of 1.36% and a mean ISS of 6.2. Mortality was highest among those who fell from steps (2.94%), with a mean ISS of 5.9, a mean age of 56, with 31% being older than 70-years. The mean length of stay was 3.6 days, 25,4% were discharged to a nursing facility or a rehabilitation facility and 2.3% to home health care.

Conclusion

This study shows the epidemiological pattern of trauma in a level one community-based trauma center. The higher frequency of falls in this study can lead us to establish fall prevention programs in our community providing education materials and presentations to target the elderly.

Tunneled Hemodialysis Catheter Salvage Using Both Mechanical and Chemical Declothing Methods

Kennedy N, Tarakji M, Jain J, Flynn LM

St. John Hospital & Medical Center, Detroit, MI

Objective:

The primary issue with tunneled hemodialysis catheter exchange is the limited number of catheters that may be placed at a single site before a patient's venous access is exhausted. Our center's approach to catheter salvage included both a mechanical brushing as well as a chemical approach. We theorized that improved declothing methods for existing catheters is preferable to frequent catheter exchanges.

Methods:

A retrospective analysis of 242 patients with tunneled hemodialysis catheters treated at our center for catheter malfunction from the time period of 2006 to 2009 was performed. A total of 605 procedures were initially identified for this study. A defined algorithm for catheter declothing was followed for each case. An endoscopic brush was used with fluoroscopic monitoring to remove obstructing debris from the entire length of the catheter lumen, including the catheter tip. If flow was obtained, tPA was instilled within the lumen. If unsuccessful, the catheter was exchanged. Prior to any catheter exchange, angiographic examination for fibrin sheath presence was performed. If a fibrin sheath was identified, angioplasty was done prior to placement of a new catheter.

Results:

We compared our results to other methods identified in the established literature. Ours was the only approach that routinely used the mechanical brushing of the lumen under fluoroscopic guidance. One adverse outcome was noted for our entire study population. This was cardiopulmonary in nature for a patient with significant comorbidities and may not have been a direct consequence of the procedure. A total of 119 patients underwent multiple interventions with a mean period between first and second interventions of 3.2 months [SD = 5.2 months]. Catheter exchange was performed at the time of initial intervention only in 38.8% of cases and 48.7% for the second documented intervention.

Conclusions:

Our approach is a safe and effective method for preservation of tunneled hemodialysis catheter function. Combining the mechanical brushing with the traditional declothing action of tPA provides improved catheter salvage and a reduction in exchange rates. Some limitations of our study include the need for previously published data as our control. Additionally, there may be some undocumented catheter interventions for some of the patients that could potentially alter our results. A prospective multi-center study may help to eliminate this variability in future research.

-33-

Deer; The Rural Menace

Smoot DL, Zielinski MD, Schiller HJ, Jenkins D, Cullinane DC, Sawyer MD

Mayo Clinic, Rochester, MN

Objectives: Crashes associated with deer have become an increasing public health concern in rural trauma centers. In Minnesota, a total of 45,421 deer versus vehicle (dMVC) accidents were reported from 1997-2006. This is likely an underestimation of actual dMVC, as Minnesota reported 98,052 carcasses removed from roadways during the same time period. We aimed to characterize the outcomes between motorcycle/all-terrain vehicles (MCC) and automobile/truck (MVC) crashes related to dMVC. We hypothesized that MCC will present with higher Injury Severity Score (ISS) and that higher ISS would be directly related to whether the driver struck the deer or swerved.

Methods: 157 patients from 1997 to 2006 were analyzed from our prospectively collected trauma database. Demographic, clinical and crash specific parameters were abstracted. Continuous variables were analyzed by the Student t test. Bivariate analysis of categorical variables was performed using the Pearson's chi squared test or Fisher's exact test. Statistical significance was determined by a p value < 0.05.

Results: 41 women and 116 men (14 to 76 years old) were treated at our rural level I trauma center after dMVC. MCCs were more likely to collide with the deer (92% vs 8%, $p < 0.001$) while MVCs were more likely to swerve (75% vs 25%, $p < 0.001$). MCCs presented with a higher median ISS than MVCs (14 vs 5, $p < 0.001$), but ISS was equivalent whether the patient swerved or collided in either vehicle type (MCC 16 vs 14, MVC 5 vs 5). Median Abbreviated Injury Score (AIS) of the spine for MCC riders was higher (3 vs 0, $p < 0.001$) if they swerved, but there was no difference in head, torso or extremity injuries. 77% of riders were not wearing a helmet which did not result in an increased median ISS (16 vs 10), head AIS (2 vs 0) or spine AIS (0 vs 0). Within the MVC group, there was no difference between swerving and hitting the deer in any AIS group. 47% of drivers were not wearing seat belts which resulted in similar median ISS (6 vs 5) and AIS of all body regions. There were 2 deaths, both in the MVC group.

Conclusion: There is wide variability in injury severity and pattern with vehicular crashes caused by deer which range from minor trauma to death. MCC suffered, on average, higher ISS although the only deaths were in the MVC group. Surprisingly, there were no significant differences in ISS if a driver involved in a dMVC swerved rather than collided, was helmeted, or restrained. Spine injuries were more common in the swerve category of MCC, but injury did not differ within the other groups. Future study should focus on prevention and deer herd control in order to reduce dMVC and its associated morbidity and mortality.

Intussusception on 64-Slice CT Scanners: Should We Come Running?

Doud, A., Horst, HM., Webb, S., Munaco, A., Azuh, O., Halabi, S., Rubinfeld, J.

Henry Ford Hospital, Detroit, MI

Objective

Radiological evidence of intussusception has long been considered a surgical emergency in the pediatric population. Yet little is known about the importance of the finding in adults, nor the accuracy of Computed Tomography (CT) in making the diagnosis. Since the advent of the 64-slice CT scanner, we noted anecdotally an increasing mention of intussusception in the radiology reports of the adult population having become more prevalent. This project set out to assess the reliability of radiological evidence of intussusception based on CT in adult patient populations in an urban tertiary care referral facility.

Methods

Medical record numbers of patients wherein intussusception was cited in their radiology reports from April 2003 through March 2009 were provided to unbiased researchers. Researchers then audited these charts, recording the presence or absence of radiological evidence of intussusception, the presence or absence of abdominal pain and the presence or absence of subsequent surgical intervention. Also noted, were final diagnoses, pathology, morbidity and mortality for these patients. Statistical analysis was employed to determine the predictive value of the radiological findings of intussusception in terms of intraoperative findings. The study was done with approval of the internal review board. Data was analyzed in SPSS (SPSS, Chicago, IL)

Results

In the evaluated time period, there were 316 CT reads of intussusception. Of these, 48 patients had clinical presentations warranting procedural evaluation. Only 18 of these 316 patients had true intussusception, as determined by intraoperative findings. Of the variables analyzed, those with abdominal pain on presentation were 7 times more likely to have intussusception than those without ($p=0.023$). Likewise, older age was a predictor of true intussusception ($p=0.001$). Elderly patients with abdominal pain and CT findings suggesting intussusception were highly likely to have findings of intussusception intraoperatively ($p<0.001$).

Conclusion

With the advent of the 64 – slice CT scanners, the use of the term intussusception in adult patient radiology reports has risen dramatically. However, in this chart audit, without the correct clinical picture, CT findings of intussusception had only a 5.7% specificity in terms of intraoperative intussusception. The accuracy improved when combined with abdominal pain, old age and clinical suspicion for intussusception. When evaluating patients for intraoperative interventions, this study suggests that surgeons should take radiological findings of intussusception as only one piece of the larger clinical picture. Walk, do not run, and see what the patient looks like.

Recovery after Complicated Colectomy as Assessed by MS-DRG Assignment

Asgeirsson, T.; Luchtefeld, M.; Senagore, AJ

Spectrum Health, Grand Rapids, MI

Purpose: Quality improvement programs in colorectal surgery have primarily focused on the reduction of short term complications with 30 days having become the standard. However, recent data has suggested that longer term followup may actually provide a better quality metric, especially with regards to the impact of mortality after colectomy. We analyzed the relationship of DRG grouping of colectomy patients with mortality in the following 365 days.

Methods: A retrospective analysis was performed on all colectomies as coded by DRG 329-331 and 148-149 within our institution between 2006 and 2008. DRG 148 allocation criteria were subsequently divided into MS-DRG 329 and 330. All patients were screened through the social security death master file and patients that died within 365 days from colectomy were used for analysis. Hospital demographics and complication profile was analyzed, however cause of death was not assessed. Means were compared with t-test and proportions were compared using z-test (2 sample proportion test) and Chi-square goodness of fit test with statistical significance set at $\alpha=0.05$

Results: 1130 patients were analyzed and the data demonstrated an overall mortality rate of 6.8% (N=77) within 365 days of surgery. The mortality group of patients had a significantly higher mean age (76.7 ± 11.8 vs 60.8 ± 16.4 ; $p < 0.05$) and a longer mean index hospital length of stay (12.8 ± 6.7 vs 7.9 ± 5.6 ; $p < 0.05$) compared to survivors. The DRG distribution was significantly different between the mortality group and survivors: 329 (49.4%/12.2%); 330 (13.0%/22.5%); 331 (1.3%/22.1%); 148 (35.1%/20.7%); and 149 (1.3%/11.5%); $p < 0.05$). DRG 329 and 148 accounted for 85% of all mortality. The most common complications during index admission in the 365 mortality group were acute blood loss anemia (N=30/39%), paralytic ileus (N=18/23%) and acute renal failure (N=20/26%). Admission via the emergency room (53.2% 41/77) and urgent admits including hospital transfers (20.8% 16/77) accounted for the majority of the mortality. Interestingly, 18 or 23% of mortalities occurred in patients requiring in-facility rehabilitation postadmission. The data showed two peaks in mortality at <30 days (N=32/41%) and >90 and <365 days (N=45/58%), whereas mortality was statistically lower at $>30 < 90$ (N=15) $p < 0.05$

Conclusion: The data demonstrate the association of specific disease related groups (DRG) to identify risk of short and long term mortality after colectomy. As expected, urgent and emergent cases and especially hospital transfers are disproportionately associated with increased overall mortality, however 365 day assessment demonstrated a significant impact on complex post-colectomy recovery. MS-DRG assignment may provide an important risk adjuster for hospital and provider outcome assessment and allow for better discussion of perioperative risk with patients and family.

Clinical Significance of Gastric Emptying in Diabetic Bariatric Patients Undergoing Laparoscopic Gastric Banding

Sticca RP, Dewing BD, MacColl CSJ

University of North Dakota School of Medicine and Health Science

Background: Laparoscopic gastric banding is a common weight loss procedure which has been performed since 1982. A large proportion of the bariatric patients who undergo gastric banding procedures are diabetic with pre-existing symptoms of delayed gastric emptying including postprandial nausea, vomiting, early satiety, and reflux. We studied diabetic patients who underwent laparoscopic gastric banding with preoperative gastric emptying studies and evaluated the relationship between gastric emptying times and pre and postoperative symptoms.

Methods: Gastric emptying time, measured by gastric scintigraphy, was collected on 52 consecutive diabetic patients prior to undergoing laparoscopic gastric banding. Normal gastric emptying time in our institution is defined as greater than 50% emptying at 73 minutes. The correlation between pre and postoperative symptoms were compared to the gastric emptying time in each patient. Symptoms were assessed by pre and postoperative bariatric screening and interviews with a bariatric surgeon.

Results: Twenty-two (42%) of the 52 patients were found to have preoperative symptoms of delayed gastric emptying. The mean gastric emptying in the symptomatic patients was 53.1% @ 73 minutes. The remaining 30 asymptomatic patients were found to have a lower mean gastric emptying of 47.3% (p=0.40). 91% of symptomatic patients had resolution of their symptoms following gastric banding and 13% of previously asymptomatic patients developed reflux symptoms following surgery.

Conclusions: There was no significant correlation between gastric emptying time and pre or postoperative symptoms of delayed gastric emptying. A majority of patients undergoing laparoscopic gastric banding had improvement of their symptoms. Laparoscopic gastric banding does not adversely affect gastric emptying times and may improve gastric emptying. Delayed gastric emptying is not a contraindication to laparoscopic gastric banding. Preoperative gastric emptying studies are of minimal value in diabetic patients undergoing laparoscopic gastric banding.

Scott Warner Woods

1927 – 2003

When attending a Midwest Surgical Association meeting, it takes little effort to almost believe that the haunting notes of a bagpipe still echo in the air. For many years, that sound accompanied the sight of a kilt-clad Scott Warner Woods as he stood wearing his trademark hand-tied tartan bow tie and played to announce the beginning of another annual meeting.

Scott W. Woods, except for his brief stint in Korea with the U.S. Army at the end of World War II, was a life-long Michiganiaan. He was born in Detroit and in 1950 he received his undergraduate degree from the University of Michigan. He then attended Wayne State University College of Medicine and graduated in 1954. After an internship at Wayne County General Hospital, he completed a surgical residency at Wayne State University in 1960. That same year, he achieved his second greatest accomplishment when established his first solo practice in Ypsilanti, MI. By 1964, he managed to attain his life's greatest accomplishment when he married his beloved Bette.

Second only to his family, Scott loved the Midwest Surgical Association best and served it tirelessly. He was Treasurer of the Association for a decade before ascending to its presidency in 1986. He championed the controversial decision to bring the Annual Meeting to Mackinac Island. Widely questioned at the time due to the island's remoteness and perceived inaccessibility, this location has easily become the best attended and most well-loved site for the annual conference. In 1987, after a long and successful surgical career as a private practitioner and as Clinical Associate Professor of Surgery at Wayne State University, Scott retired from active surgical practice in 1987 due to complications from arthritis. Scott and Bette remained together in Ypsilanti for the rest of his life.

Scott viewed retirement as a chance to cut back to only 50 or 60 hours of work each week. He remained an important part of his community in Ypsilanti, where he served on the city council, the board of the Ypsilanti Savings Bank, the Chamber of Commerce (including a term as president), with the Lions Club and as a trustee of Cleary College. He reviewed disability claims for the state and worked for the Michigan Peer Review Organization. Scott received many honors and awards from the numerous professional organizations that were proud to call him a member. These organizations included the American College of Surgeons, the Academy of Surgery of Detroit and the Detroit Surgical Association. He was awarded an honorary doctorate from Cleary College for his years of service. His highest accolade occurred in 1995 when both Scott and Bette were selected to receive the Distinguished Philanthropist Award from the American College of Surgeons.

Surgeon, teacher, community leader, philanthropist, husband, father and friend—Scott's death left an empty place in the hearts of all who knew him. He gave selflessly during life and will continue to give in death. Gone is the man, but not the memory.



Scott Warner Woods, MD

**2010 Scott W. Woods
Memorial Lecture**

Featuring

David B. Hoyt, MD, FACS

Executive Director

American College of Surgeons (ACS)

Chairman, Department of Surgery;

Executive Vice-Dean, School of Medicine

John E. Connolly Professor of Surgery,

University of California, Irvine (UCI) Medical Center.



Dr. Hoyt received a BA degree with honors from Amherst College, followed by an M.D. degree from Case Western Reserve University in 1976. From 1976-1984 Dr. Hoyt was a Surgical Resident and Research Fellow at the University of California, San Diego (UCSD) and Scripps Immunology Institute. He joined the faculty at UCSD and immediately became involved in their Trauma Service where his role as Director lasted from 1989 – 2006. In 1995 he was appointed Professor of Surgery and was awarded The Monroe E. Trout Professorship in Surgery at UCSD (1996). In 2006 Dr. Hoyt was appointed to the position of Chairman, for the Department of Surgery at the University of California, Irvine and the John E. Connolly Professor of Surgery. In 2008 Dr. Hoyt was also appointed Executive Vice Dean for the University of California, Irvine, School of Medicine. In January 2010 Dr. Hoyt was appointed Executive Director of the American College of Surgeons. He remains Emeritus Professor of Surgery at the University of California, Irvine.

Dr. Hoyt has distinguished himself within the Department of Surgery, having delivered numerous named lectures, received multiple significant awards from his colleagues as well as scientific organizations, while serving in positions of leadership. Dr. Hoyt continues to serve as an advisor for many graduate students.

He is a member of the American Surgical Association, Surgical Biology Club, Western Surgical Association, and Society of University Surgeons and holds membership in other prestigious surgical organizations. He is currently the immediate Past President of the American Association for the Surgery of Trauma, Past President of the Society of General Surgeons of San Diego, Past President of the Shock Society, Past Chairman of the American College of Surgeons Committee on Trauma, and Past Medical Director of Trauma at the American College of Surgeons. He has been a visiting professor at a large number of institutions nationally and internationally and is an Editorial Board Member of six journals. Dr. Hoyt consistently received significant public research funding, and continues to do so. He is the author of over 475 publications. He was recently awarded the American Heart Association Resuscitation Science Lifetime Research Achievement Award and The American College of Surgeons Distinguished Service Award.

William Hunter Harridge

1919 – 1971

Bill Harridge was a man of uncommon energy, integrity, and honesty. His personal enthusiasm, as well as his organizational abilities, made him an outstanding leader of men and organizations. This was evident early in his life as he served with distinction as a company commander of an Army tank unit. In 1945, he suffered a severe open-chest wound in France causing his discharge from the Army with the rank of major.

In 1963, after much discussion and thought, a decision was made to disband the Midwest Surgical Society. Fortunately for our present Society, Bill was persuaded to assume the Presidency for the coming year. Under his leadership, the Society was resurrected, its geographical base was expanded, and it has flourished ever since.

With the exception of his father, Will Harridge, Sr., who was the President of the American Baseball League, Bill's relationship with Dr. Warren Cole was the most important of his life. Dr. Cole writes: "Bill had good judgment, sincerity, determination, willingness to discipline himself...he had complete honesty and integrity...compassion, a characteristic so necessary if one is to become a fine physician."

Bill graduated from the University of Illinois College of Medicine in 1950 and served his internship and residency under Dr. Cole from 1950 to 1956. While he entered private practice in Evanston, Illinois, he maintained an active clinical affiliation with the University and was promoted to the rank of Clinical Professor. In May of 1970, he received the Distinguished Service Award in recognition of his contribution to the Department of Surgery.

Bill was a strong advocate of doctors determining their own destiny through active participation in their own professional organizations. He was a Diplomate of the American Board of Surgery and belonged to the Warren H. Cole Society (President 1968-69), Midwest Surgical Association (President 1964-65), North Suburban Branch of the Chicago Medical Society (President 1969-70), Chicago Surgical Society (Recorder 1968-70), The Western Surgical Association, The Illinois Surgical Society, The Society for Surgery of the Alimentary Tract, North Shore Chapter American Cancer Society (President 1966-68), The Institute of Medicine of Chicago and the American College of Surgeons. His many contributions to the surgical literature were primarily related to peripheral vascular and biliary tract disease.

Beloved by his patients and respected for his abilities by his surgical colleagues, Bill Harridge is most remembered for his rigid adherence to the principles of fairness, honesty, and forthrightness in all situations.



William Hunter Harridge, MD

2010 William Hunter Harridge Memorial Lecture

Featuring

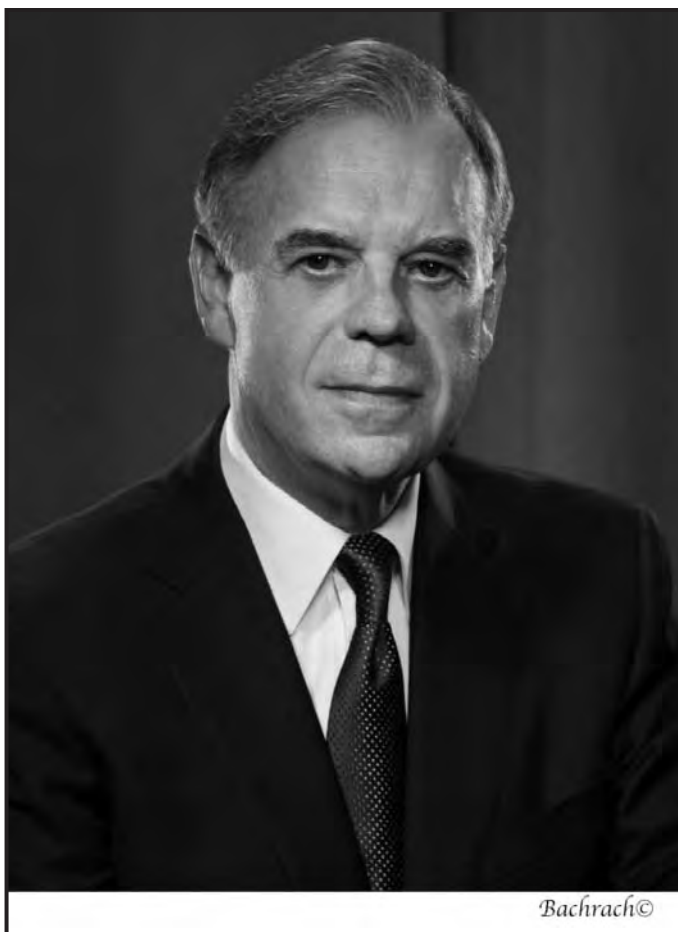
Kirby I. Bland, MD, FACS

Chairman, Department of Surgery

University of Alabama,

Birmingham, Alabama

*Deputy Director, University of Alabama,
Birmingham Comprehensive Cancer Center*



Bachrach©

Dr. Bland is Board-certified in Surgery (1978, 1991, 2000) following completion of General Surgery Residency and Fellowship in Immunology at the University of Florida as well as a Surgical Oncology Fellowship at the M D. Anderson Cancer Center in Houston where he was a Research Associate and Fellow. He has been competitively funded in cancer-related research since 1974 with emphasis in breast, colorectal and gastrointestinal cancer malignancies. His principal research interests in the past ten years have been those related to breast cancer including clinical trials and molecular mechanisms of oncogenesis.

Following completion of his training in General Surgery and Surgical Oncology, Dr. Bland joined the faculty of the University of Louisville (1977-1983) where he was Assistant and Associate Professor of Surgery and was awarded the American Cancer Society Junior Faculty Clinical Fellow Award (1978-1981) as well as ACS and University support of cellular research on cytoreductive effects of systemic hyperthermia in rodent models. He was the Co-PI of the NSABP at the University of Louisville as well as a Co-PI for the Southeast Cancer Study Group (1981-1983). At Louisville he received multiple institutional and pharmaceutical grants for research in wound repair following surgical and chemotherapeutic injuries. After moving to the University of Florida as Professor and Associate Chairman, he assumed a leadership role as a Co-PI in the multi-institutional Southeast Cancer Study Group grants, those in the Eastern Cooperative Oncology Group multi-institutional grants and completed multiple clinical trials for the treatment of primary breast cancer (1983-1993). He has been instrumental in providing research training to residents/fellows and was funded with a T32 grant for "Research Training of Surgical Oncology" of which he was the PI and a Co-PI at the University of Florida, Brown University, and currently at UAB. While at the University of Florida he was the Clinical Director of the University of Florida Cancer Center and Co-PI for the Cancer Center Training Grant. In 1993 he departed the University of Florida and accepted the J. Murray Beardsley Professor and Chairmanship at Brown University. At Brown he built a nationally recognized Department of Surgery that was research- and clinically-focused with NIH funding in the top 15th percentile nationally. Combined with his funded work in shock, trauma, and metabolism, current efforts continue unabated in bench research and clinical trials for breast cancer. In 1999, he returned to his medical school alma mater as the Fay Fletcher Kerner Professor and Chairman of the Department of Surgery and Surgeon-in-Chief at University Hospital and The Kirklin Clinic. He is Division Director of the General Surgery. Dr. Bland served as Deputy Director of the UAB Comprehensive Cancer Center from 2000-2009 and is now Senior Advisor to the Director.

Dr. Bland's past experience includes Co-PI of the NSABP at the University of Florida and currently at UAB; he was active in the ECOG and CALGB studies at the University of Florida and Brown University. Presently, he chairs committees of the American College of Surgeons Oncology Trials Group where he is a Co-Investigator

and advisor in the breast cancer studies (1998-2001). He is a former Director of the American Board of Colon and Rectal Surgery (1987-1992) and the American Board of Surgery (1986-1992) and continues to function as a Senior Director. From 1994-1999 he was a member of the Breast Cancer Detection Core Team of the American Cancer Society and recently ended a term as the Chairman of the National Cancer Data Base of the Commission on Cancer of the American College of Surgeons. He served on the ACS Board of Governors as the representative from the American Surgical Association from 2004-06, was appointed to serve on the Executive Committee of the ACS Board of Governors in 2005, and in 2006 was elected Vice-Chair of the Board of Governors. He was appointed to the ACS Board of Regents in 2006 for one year. He is currently First Vice President of the American College of Surgeons (2009-2010). He served as Chairman of the Residency Review Committee (RRC) for Surgery (2001-2005). He is the current President of the American Surgical Association (2010-11). He continues to serve on the Board of Directors of the Association of Program Directors in Surgery (since 1989) and is a past-President of the Association for Academic Surgery (1987-1988) and the Society of Surgical Oncology (SSO) where he continues to serve on the Board of Directors and served as a member of the James Ewing Foundation of the SSO (1997-2002). He is past President of the Society of Surgical Chairs (2001-2002) and past President of the Southern Surgical Association (2006) after serving as Treasurer (2000-2005). He is a past-President of the Southeastern Surgical Congress (2008-2009).

In 1996, Dr. Bland served on the President's Cancer Panel and has been a Consultant for the National Academy of Sciences, Institute of Medicine for the Department of Veterans Affairs (1990). Dr. Bland is currently an active Editorial Board member of twelve scientific peer-reviewed journals including *The Annals of Surgery*, *Surgery*, among others, and since January, 2005, serves as the Editor-in-Chief of *The American Journal of Surgery*. He has served as a scientific reviewer for Study Sections of the National Cancer Institute of the NIH and as a Consultant since 1991. He served on the Board of Scientific Advisors and the Clinical Trials Advisory Committee for the National Cancer Institute (2004-2009) and continues as an Ad Hoc Consultant for NCI.

Dr. Bland's career has focused in a broad perspective on surgical oncology including bench research and clinical trials that have had principal focus in breast cancer. He also is a nationally recognized teacher of surgical sciences and has mentored multiple academic surgeons internationally. He is Principal Investigator of the NIH/NCI Breast SPORE grant (\$13.9 million) and a NIH T-32 Training in Surgical Oncology grant.

William Hunter Harridge Lecturers

Kirby I. Bland, MD	2010	Erwin R. Thal, MD	1989
Jay L. Grosfeld, MD	2009	J. Patrick O’Leary, MD	1988
Douglas James Mathisen, MD	2008	Robert W. Barnes, MD	1987
Terry Hicks, MD	2007	Jeremiah G. Turcotte, MD	1986
George L. Irvin, III, MD	2006	Steven G. Economou, MD	1985
J. David Richardson, MD	2005	Jerry M. Shuck, MD	1984
Josef E. Fischer, MD	2004	Robert E. Hermann, MD	1983
Stephen D. Leach, MD	2003	Ward O. Griffen, MD	1982
Charles E. Lucas, MD	2002	Robert Condon, MD	1981
J. Wayne Meredith, MD	2001	Robert J. Freeark, MD	1980
Michael W. L. Gauderer, MD	2000	John Glover, MD	1979
Glenn D. Steele, Jr., MD, PhD	1999	Robert Bartlett, MD	1978
Layton F. Rikkers, MD	1998	J. Wesley Alexander, MD	1977
Gregorio A. Sicard, MD	1997	Raymond Read, MD	1976
John P. Delaney, MD, PhD	1996	Hushang Javid, MD	1975
Keith A. Kelly, MD	1995	*Alexander J. Walt, MD	1974
Robert E. McAfee, MD	1994	Warren H. Cole, MD	1973
Richard L. Simmons, MD	1993	Lester R. Dragstedt, MD	1972
David S. Mulder, MD	1992	Allan M. Lansing, MD	1971
Donald D. Trunkey, MD	1991	Lester R. Dragstedt, MD	1962
Lazer Greenfield, MD	1990	Warren H. Cole, MD	1960
Erwin R. Thal, MD	1989		

* First official Harridge Lecturer

NOTICE OF CHANGE

Please make the following changes to my listing:

Name _____

Spouse's name _____

Address _____

Address _____

Address _____

City, State, Zip _____

Phone _____

FAX _____

E-mail _____

Surgical specialty _____

*Year of induction into
MSA membership* _____

Send to:

**EFFECTIVE AUGUST 2010
MANAGEMENT OFFICE WILL BE:**
Nonie Lowry
Director, Association Management
5810 W. 140th Terrace
Overland Park, KS 66223
Telephone: 913.402.7102
Fax: 913.273.1116
Mobile: 913.314.5700
Email: nonie@lp-etc.com

NOTICE OF DEATH

Name

Date

Send to:

**EFFECTIVE AUGUST 2010
MANAGEMENT OFFICE WILL BE:**

Nonie Lowry

Director, Association Management

5810 W. 140th Terrace

Overland Park, KS 66223

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