

IMPACT OF SURGICAL SITE INFECTION REDUCTION STRATEGY IN COLORECTAL RESECTIONS

C. Foppa, E. Kazi, S. Palmer, N. Desai, P. Denoya, R. Bergamaschi. *Division of Colon & Rectal Surgery, State University of New York, Stony Brook, NY, USA.*

Introduction: This study was performed to determine the impact of a surgical site infection (SSI) reduction strategy on SSI rates following colorectal resection.

Methods: NSQIP data were utilized and supplemented by IRB-approved chart review. Primary endpoint was superficial and deep incisional SSI defined by CDC National Nosocomial Infections Surveillance system. Inclusion criterion was colorectal resection. SSI reduction strategy consisted of preoperative (blood glucose, bowel preparation, shower, hair removal), intraoperative (prophylactic antibiotics, antimicrobial incisional drape, wound protector, wound closure technique), and postoperative components (wound dressing technique). SSI reduction strategy was prospectively implemented and compared with historical controls (pre-SSI strategy arm). Statistical analyses included Pearson's chi-square test, and student t-tests performed with SPSS software.

Results: 379 patients were in pre-SSI strategy arm and 311 patients in SSI strategy arm. Study arms were comparable for age ($p=0.85$), BMI ($p=0.33$), gender ($p=0.23$), ethnicity ($p=0.224$), smoking ($p=0.59$), alcohol abuse ($p=0.76$), steroids ($p=0.66$), hypoalbuminemia ($p=0.80$), ASA class ($p=0.30$) and co-morbidities ($p=0.73$). Preoperative wound class ($p=0.13$), operative time ($p=0.28$), type of resection ($p=0.94$), stoma creation ($p=0.23$), did not differ significantly. More patients underwent laparoscopic surgery in SSI strategy arm ($p<0.01$). Overall SSI rate was significantly decreased in the SSI strategy arm (32.19% vs. 18.97%) (122 vs. 59, $p<0.01$). Superficial SSI rate was lower in SSI strategy arm (23.48% vs. 8.04%) (89 vs. 25, $p<0.01$). Deep SSI (2.37% vs. 2.89%) and organ space rates (6.07% vs. 7.72%) did not differ.

Conclusions: The implementation of SSI reduction strategy resulted in a 41% decrease in SSI rates following colorectal resections.

RISK FACTORS FOR THE DEVELOPMENT OF ADHESIVE SMALL BOWEL OBSTRUCTION FOLLOWING ABDOMINAL AND PELVIC OPERATIONS

A. Sastry¹, M. Grigoreva¹, I. Leitman¹. ¹ *Beth Israel Medical Center, New York, NY, USA.*

Introduction: Adhesive small bowel obstruction (SBO) is a disease process that has been difficult to prevent. Mechanical barriers and chemical agents exist to disrupt the formation of adhesions, each associated with medical risk and financial burden. A risk model for developing SBO in patients post laparotomy would aid in the appropriate use of such agents.

Methods: A retrospective analysis from 2008 to 2012 was performed. Cases of SBO following previous laparotomy were compared to those without SBO.

Results: 468 medical records were reviewed (57% male). Operations that caused the highest risks for SBO included gynecological, colorectal and hernia operations with prosthetic materials. 66% percent of patients underwent a prior abdominal or pelvic high-risk procedure. The average time to the development of SBO was 24 months (median 19 months). Patients who developed SBO had a median age of 58.4 years on initial surgery, average previous operative time of 4.3 hours, and an average of two prior operations. For every hour of operative time, the odds of developing SBO increased by 33% ($p<0.05$) and for every prior surgery, the odds increased by 24% ($p<0.05$). The presence of ASA Classification >3 decreased the odds of SBO ($p=0.05$). Gastrointestinal spillage did not increase the risk of developing SBO. An algorithm was developed to score a patient's risk for SBO.

Conclusions: A risk score was developed to quantify the risk for developing SBO following surgery. This might be helpful in discussing proposed surgery with patients.

IMPACT OF RECTAL MOBILIZATION, FIXATION TO SACRUM, AND SURGICAL ACCESS ON RECURRENCE FOLLOWING ABDOMINAL SURGERY FOR RECTAL PROLAPSE. A POOLED ANALYSIS OF 865 PATIENTS

C. Foppa, M. Bishawi, R. Bergamaschi for the Rectal Prolapse Recurrence Study Group *Division of Colon and Rectal Surgery, State University of New York, Stony Brook, NY, USA.*

Introduction: This study was designed to determine impact of extent of rectal mobilization, method of fixation to sacrum, and type of access on

recurrence rates (RR) following abdominal surgery for full-thickness rectal prolapse (FTRP).

Methods: Patient data included age, gender, length of external prolapse, incontinence, constipation, ASA, previous abdominal surgery, comorbidities, access, rectal mobilization (anterior, posterior, circumferential, down to levator ani, division of side ligaments), method of rectopexy (mesh, sutures, tacks), sigmoid resection, and complications. Recurrence was defined as presence of full-thickness rectal prolapse after surgery. Impact of categorical factors on RR was assessed using Fisher Exact and Chi-squared tests. Recurrence-free survival curves were generated based on type of surgical access, method of fixation to sacrum and extent of rectal mobilization, and differences in time to recurrence compared using the Log rank test.

Results: Data on 865 patients included median age of 55 years, 606 females, median length of external prolapse 7 cm, previous abdominal surgery 18.4%, and comorbidities 13.2%. Mobilization to levators ($p=0.254$), mesh ($p=0.823$), suture vs. staple fixation of mesh ($p=0.418$), sigmoid resection ($p=0.406$), and laparoscopic access ($p=0.096$) did not influence RR. Circumferential mobilization ($p<0.001$) and division of side ligaments ($p=0.04$) were associated with decreased RR. Duration of follow-up ranged from 12 to 235 months. There were 59 recurrences at median follow-up of 60 months. 122 (14.1%) patients were lost to follow-up.

Conclusions: Circumferential rectal mobilization and division of lateral ligaments were associated with decreased RR. The addition of mesh or resection and type of surgical access did not influence RR.

ROUTINE POSTOPERATIVE CONTRAST STUDY AFTER HELLER MYOTOMY: IS IT REALLY NECESSARY?

Kathleen Holoyda MD, Michael J. Pucci MD, Wei Phin Tan BS, Ernest L. Rosato MD, Francesco Palazzo MD, Karen A. Chojnacki MD

Introduction: Laparoscopic Heller Myotomy is a safe and durable treatment for achalasia. Traditionally, contrast studies are routinely obtained in the early postoperative period to rule out esophageal leak. Early in our experience, our group would rely on postoperative studies; however, after a false positive exam we moved away from routinely performing postoperative contrast studies. We began performing intraoperative evaluation of esophageal mucosal integrity using intraoperative endoscopy or the instillation of methylene blue into the esophagus. Herein, we report our experience.

Methods: All patients undergoing laparoscopic Heller Myotomy from 2002 until 2012 at our institution were retrospectively reviewed. Patient demographics, preoperative studies, operative reports, and postoperative data were collected and analyzed. Patients were divided into two cohorts: those who underwent post-operative imaging those who did not. The two cohorts were compared.

Results: During a 10 year study period, 163 patients underwent laparoscopic Heller Myotomy with Dor fundoplication. Sixty-two patients underwent contrast studies postoperatively. Patient demographics and preoperative interventions were similar between the two cohorts. The average length of stay was 2.0 +/- 1.28 days for patients who did not undergo postoperative imaging and 3.3 +/- 2.91 days for those who did ($p=0.0024$). There was no statistically significant difference seen in 30 day readmission rate and complication rate. No patients (0%) suffered clinically relevant leak.

Conclusion: In our series, laparoscopic Heller Myotomy with Dor fundoplication can be performed safely by experienced surgeons. In routine cases, postoperative contrast imaging may be unnecessary.

DOCTOR, "YOUR PATIENT HAD BREAST SURGERY. WHERE MAY I OBTAIN A BLOOD PRESSURE?"

Linwood R. Haith MD¹, Kathleen M. Toomey BSN, RN², Mary Lou Patton MD¹, Robert E. Guilday MD¹. ¹ *Surgical Care Associates, 241 Cancer Center, Crozer-Chester Medical Center, Upland, PA, 19013, United States;*

² *Department of Nursing, Crozer-Chester Medical Center, Upland, PA, 19013, United States.*

Background: Ambulatory procedures after breast surgery is common. Nurses admitting patients with a history of breast surgery are often uncertain where they may obtain blood pressure (BP), start IV's or draw blood. Breast surgeons may be unaware of the literature, causing inconsistency in