SCREENING PRIOR TO BREAST CANCER DIAGNOSIS: THE MORE THINGS CHANGE THE MORE THEY STAY THE SAME

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Objectives
In November 2009, the U.S. Preventative Service Task Force (USPSTF) recommended biennial screening mammography in women aged 50-74 years and recommended against routine mammographic screening in women aged 40-49 years. The purpose of this study was to evaluate the pattern of screening subsequent to the revised USPSTF guidelines in a population of women who were newly diagnosed with breast cancer at our institution.

Method
In January 2010, we established a Breast Cancer Database at NYU Langone Medical Center. This prospective database is intended to include all individuals undergoing definitive breast cancer surgery at our institution, and includes elements of pre-diagnosis personal and family history, screening history, method of diagnosis, stage at diagnosis, details of treatment and outcomes. We queried the database for the following variables: age, race, how the cancer was first detected, mass palpability, screening frequency [regular (annual), biennial, and not regular screeners], histology, stage, and ER/PR/Her2-neu status. Statistical analyses were performed using Pearson's Chi-Square and Fisher's Exact Tests.

Results
A total of 1216 women were diagnosed with ductal carcinoma in-situ and invasive breast cancer from January 2010-2012. The median age at diagnosis was 58 years and majority of our patients were Caucasian (75%). Most of the cancers were detected on mammography (59%). A total of 833 (69%) women did not present with a palpable mass at the time of diagnosis. There was no statistically significant difference in detection on screening mammography ($p=0.79$) and palpability ($p=0.31$). The majority of our patients had invasive ductal carcinoma (60%), stage 0 (24%) and stage 1 (49%) breast cancers that were ER positive (81%), PR positive (68%), and Her2-neu negative (64%). These tumor characteristics did not change significantly over time: histology ($p=0.66$), stage ($p=0.68$), ER ($p=0.35$), PR ($p=0.62$), and Her2-neu ($p=0.66$). The frequency of screening (regular (annual) vs. biennial vs. not regular) did not change significantly over time ($p=0.22$). In the several years following the USPSTF guidelines, screening frequency and stage at diagnosis did not vary significantly. However, when we looked at screening frequency and breast cancer stage, women who were not regular screeners had an increased risk of developing later stage breast cancer ($p<0.001$) and were more likely to present with a palpable mass when compared to women who were regular screeners (61% vs. 21%; $p<0.001$).

Conclusions
In our study cohort of women with newly diagnosed breast cancer, prior screening behavior did not significantly change in the years following the USPSTF guidelines. There is also no evidence of stage migration over time and most cancers continue to be detected by mammography while remaining clinically occult. This study supports previous research which has demonstrated the benefits of annual screening mammography in increasing the opportunity for early detection of breast cancer. Furthermore, these results suggest that women who are not screened annually are at increased risk of a delay in breast cancer diagnosis, which may impact treatment options and outcomes.

Pneumoperitoneum Following Abdominal Surgery; Can We Distinguish Benign vs. Problematic?

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INTRODUCTION Pneumoperitoneum seen on postoperative imaging presents a diagnostic dilemma. It can be a normal finding secondary to air that was introduced at surgery, which typically resolves in a matter of days. On the other hand, it could also represent a sign of a perforated viscus or an anastomotic leak, which might require re-operation. Distinguishing one from the other is critical to successful management. This study examines clinical and radiological findings in order to determine which are able to facilitate the distinction of benign versus pathological postoperative pneumoperitoneum.

METHODS A retrospective analysis of medical records from a large urban teaching hospital was performed. Imaging studies reporting "pneumoperitoneum," "free air," and "free intraperitoneal air," from July 2006 through June 2012 were selected for review. The cases were divided into three groups: patients who ultimately were returned to the operating room and had findings requiring operative intervention, those who were returned to surgery but did not have evidence of pathology requiring operative intervention, and those who were managed expectantly. Demographic, physical findings and laboratory studies were recorded. The radiological studies were reviewed in an attempt to quantify the amount of free intra-peritoneal air.

RESULTS 68 patients were found to have postoperative pneumoperitoneum after abdominal surgery. Twenty patients (29%) underwent re-exploration because of presumed intra-abdominal complication and the remainder of patients was managed by observation alone. Nine patients had prior open surgery and 11 had minimally invasive abdominal procedures. At surgery, 14 patients (70%) were found to have pathologic conditions requiring intervention. The other six were explored but were found to have conditions that could have been managed without re-exploration. The patients in each group were similar with regard to age, gender vital signs, pain score, physical findings, amount of free air or open vs. laparoscopic procedure. However, patients requiring re-operation were found to have pneumoperitoneum 5.7 days after initial surgery compared to postoperative 2.7 days for those that could be managed expectantly ($P = 0.004$). 15% of the patients undergoing re-operation died compared to 19% who were managed without surgery ($P > 0.05$), none of which were related to intra-abdominal pathology. None of the other variables were found to be significantly different between groups.

CONCLUSIONS This study suggests that patients with postoperative free air still present a diagnostic and therapeutic challenge. However, free air several days following surgery may provide an indication that this finding should be of greater concern. Such patients have a greater likelihood of requiring reoperation for the treatment of a postoperative complication.

SAFETY AND EFFICACY OF LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING IN PATIENTS AGE 70 AND OVER

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Introduction: Life expectancy in America is steadily increasing and as obesity continues to become more prevalent, more elderly people are categorized as obese. Obesity causes multiple co-morbidities with an associated healthcare burden and decreased quality of life.

Methods: Retrospective analysis of patients aged 70 years and over who underwent laparoscopic adjustable gastric banding at our institution between 2003 and 2011 was undertaken. The data included age, pre and post operative weight, body mass index (BMI) and percentage excess weight loss (%EWL) post gastric banding. Operative data, length of stay, post operative complications and resolution of co-morbid conditions were also analyzed.

Results: 57 patients aged 70 and over, median age 73 (range 70-82) underwent gastric banding at our institution between 2003 and 2012. The mean pre-operative weight and body mass index were 272lbs (range 171-432lbs) and 40 kg/m^2 (range 36-65). Each patient had on average 4 co-morbidities pre-operatively with hypertension (n=49, 86%), dyslipidaemia (n=40, 70%) and sleep apnea (n=31, 54%) being the commonest. Mean OR time was 49 minutes (21-92) with all patients discharged within 24 hours. There were 0% 30 day mortality and re-admission rates and only 1 death at 4 years from cardiac disease. The mean % of excess weight loss at 1, 2, 3, 4 and 5 years were 36 (+/-12.7), 40 (+/-16.4), 42 (+/-19.2), 41 (+/-17.1), 50 (+/-14.9) and 48 (+/-22.6) respectively. Complications included 1 band slip at year 5, 1 band removed for intolerance, 1 ventral hernia, 1 port site hernia, 1 small bowel obstruction which resolved spontaneously and 2 patients who required cholecystectomy for gallstones. The resolution of hypertension, dyslipidemia, sleep apnea, lower back pain and non insulin dependent diabetes were 27%, 28%, 35%, 31% and 35% respectively.

Twenty-Four Hour Staged Carotid Endarterectomy Followed By Coronary Artery Bypass Grafting for Severe Carotid and Coronary Artery Disease

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Introduction

Carotid artery stenosis (CAS) and coronary artery disease (CAD) share common risk factors and often coexist in the same patient. There is no consensus regarding the optimal treatment strategy for patients with concomitant severe coronary and carotid disease. Our goal was to review the results of our experience performing coronary artery bypass grafting (CABG) within 24 hours of carotid endarterectomy (CEA) in this select patient population.

Methods

We indentified patients who underwent CEA followed by CABG within 24 hours from 2001 to 2012. Pre-operative, intra-operative and post-operative data was collected and analyzed.

Results

Fifty-one patients underwent CEA followed by CABG within 24 hours. Mean age was 68±10 years, 73% male. Peri-operative morbidity included hypertension (86%), diabetes (51%), peripheral vascular disease (22%), and previous myocardial infarction (22%). The surgical times for CEA and CABG were 2.1±0.86 hours and 3.5±1.2, respectively. Peri-operative transfusion was 1.5±0.71 units (CEA) and 1.9±1.8 (CABG). CABG was predominantly off-pump (98%) and 3.5±1.2 bypasses were performed. Duration between CEA and CABG was 1.2±0.59 days with 92% within the 24 hour time frame. Post-CEA surgical outcomes were anemia (2%) and hypoglossal nerve damage (2%). Post-CABG surgical outcomes: atrial fibrillation 36%, anemia 6%, pneumonia 5%, and post-operative bleeding 4%. Patients were discharged 7.5±4.3 days after surgery. No post-CABG cerebrovascular accidents (CVA) were identified.

Conclusions

Twenty four hour staged carotid endarterectomy followed by coronary artery bypass grafting minimizes myocardial infarction status post CEA, while minimizing CVA status post CABG in patients with concomitant sever coronary and carotid artery disease.

Conclusions

MICS-CABG combined with MIVS via bilateral mini-thoracotomies yielded comparable short term results to CABG and valve repair via median sternotomy with no mortalities or re-operations. Possible advantages to the minimally invasive approach included earlier extubation and discharge from the hospital. Combined CABG and valve surgery can be safely performed via bilateral thoracotomies.

Title: Simulated Colonoscopy Training: Responsiveness of Surgery Interns

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Introduction: This study aimed to evaluate the responsiveness of surgery interns to simulated colonoscopy training.

Methods: Interns defined as postgraduate year 1 surgery residents without previous exposure to colonoscopy underwent simulated colonoscopy training at a single institution using a 13 mm colonoscope in synthetic colorectal anatomy trays with tattoos in a hybrid simulator. After baseline and mentored training sessions final testing was performed with 5 predetermined proficiency criteria. Content-valid measures defined by the extent of their departure from clinical reality were evaluated by 2 blinded raters. Responsiveness was defined as change in performance over time and was assessed by comparing baseline testing with unmentored final testing.

Results: For one year 12 interns performed 48 colonoscopies. Eight participants were male with a mean age of 26.83 and 80% were right hand dominant. Overall procedure time (24:46 vs. 20:54 min; p=0.03), passing splenic flexure (20:33 vs. 10:45 min; p=0.007), passing hepatic flexure (23:31 vs. 12:45 min; p=0.003), reaching cecum (23:38 vs. 13:26 min; p=0.008) times improved significantly. Rates of inability to navigate the scope (75% vs. 8.3%; p= 0.023), incomplete colonoscopy (100% vs. 33.3%; p=0.042), and too fast scope withdrawal (16.7% vs. 8.3%; p=0.052) improved significantly. Tattoo identification time (9:16 vs. 12:25; p=0.50) and the rate of colon perforation (8.3% vs. 8.3%; p= 0.023) remained unchanged. Interrater reliability was 1.0 for all measures.

Conclusion: Simulated colonoscopy training impacted responsiveness of surgery interns with decreased procedure time and increased rates of complete colonoscopy with appropriate scope withdrawal.

Title: Endoscopic Transaxillary Thyroidectomy: Early Results and Functional Outcomes

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Introduction: Endoscopic transaxillary thyroidectomy is an alternative approach to cervical thyroidectomy. This method avoids a neck scar and may be desirable in select patients.

Methods:
In this prospective study, the outcomes for endoscopic transaxillary thyroidectomies were analyzed. Standardized surveys to assess voice, shoulder function, pain, physical functioning, role limitations, and fatigue were employed. Surveys were done at the pre-operative visit (V1), first post-operative (V2, approximately 1-3 weeks after surgery), and second post-operative visit (V3, approximately 3 months after surgery).

Results:
38 procedures were performed on 35 patients. 20 lobectomies, 15 total thyroidectomies, and 3 completion thyroidectomies were performed. The pre-operative diagnoses were benign in 28 and malignant in 7. 26 (68%) were discharged within 6 hours. Parathyroid autotransplantation was performed in 10 (26%) patients. 12 lesions were malignant. Major complications included vocal cord palsy (n=1), transient hypoparathyroidism (n=1), and pneumonia (n=1). Survey results of 16 patients showed that voice worsened at V2 when compared with V1 ($p=0.004$). However, at V3, voice improved and there was no difference between V1 and V3 ($p=0.144$). The same sequence was seen with shoulder function ($p=0.003$, $p=0.06$). There was no difference in pain between V1 and V3 ($p=0.359$). There were no differences in physical functioning between any of the visits ($p=.083$, $p=0.398$). Role limitations were higher at V2 when compared with V1 ($p=0.006$). At V3, this improved, and there was no difference in the score between V1 and V3 ($p=1$). The same pattern was seen with fatigue ($p=0.02$, $p=1$).

Conclusion:
Endoscopic transaxillary thyroidectomy is a safe alternative to the cervical approach. Overall

complication rates are low. However, when compared to the cervical approach, there is a higher incidence of parathyroid autotransplantation. Outcomes are favorable in that voice quality, shoulder function, pain, physical function, role limitations, and energy remain unchanged after the procedure.

USING NATIONAL SURGICAL QUALITRY IMPROVEMENT PROJECT (NSQIP) DATA TO DECREASE VENTILATOR DAYS AND PNEUMONIA IN A SURGICAL ICU.

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INTRODUCTION: NSQIP is a risk adjusted database tracking surgical outcomes. NSQIP has been demonstrated to decrease complications, expenses and mortality. In the study institution, a high rate of nosocomial pneumonias was observed in surgical patients. The authors utilized NSQIP to track effectiveness of interventions made.

METHODS: NSQIP collected preoperative through 30-day postoperative data on surgical patients. Data acquired included demographic, peri-operative, hemodynamic and outcome data. Multiple outcome measures including Pneumonia (PNEU), Ventilator > 48 hours (V48) were obtained and entered into a central database from which a risk adjusted Semi-annual Report (SAR) was generated. Specific interventions included enforcement of protocols, early extubation, nutrition, adherence to sedation holidays and VAP bundles. Data is reported as Observed to Expected Odds Ratio (O:E) with 1 being performance as expected .

RESULTS: Three SARs were generated: July2011, January2012 and July2012. In July2011 the O:E for PNEU was 1.8 (5/368, 1.36%), while V48 was 2.54 (7/368, 1.9%). By January2012, the O:E for PNEU was 1.48 (13/926, 1.4%) while V48 declined to 1.11 (10/925, 1.08%). July2012 the O:E for PNEU was 1.25 (13/1081, 1.2%) ($p<.05$) and V48 was 1.04 (12/1080, 1.11%) ($p<05$).

CONCLUSION: Progressive improvements in PNEU and V48 were observed. Given an estimated annual Volume of 10,000 cases per year with a cost of $22,097 per episode of PNEU and $27,654 per V48; a projected 65 avoided episodes of PNEU and 105 avoided episodes of V48 could be realized with potential savings exceeding $4,000,000 .

	July 2011 SAR	Jan 2012 SAR	July 2012 SAR	Est. Savings
PNEU O:E	1.80	1.48	1.25	$1,436,305
V48 O:E	2.54	1.11	1.04	$2,903,655