ABSTRACT
PHILADELPHIA ACADEMY OF SURGERY
CONJOINT MEETING

April 18, 2012

25-30 Year Suvival of 114 Women Whose Breast Cancers Were Diagnosed By Needle Localization Biopsy

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Needle localization biopsy of breast lesions was introduced to York Hospital in 1981. Between June, 1981 and December, 1986 114 invasive and in situ breast cancers were diagnosed by this technique. They ranged in size from microscopic (<0.1 cm) to 2.5 cm. The vast majority were treated with modified radical mastectomy, had negative axillary nodes, and few received chemotherapy or tamoxifen.

The information is taken from the data sheets that were used to report the 5-10 year survival of this group in 1992, as updated by the York Hospital Tumor Registry. Their survival is tabulated in the following table, which is stratified by age group and by in situ versus invasive carcinoma.

	<40	40's	50's	60's	70+
N invasive	3	7	23	30	18
In situ	2	8	10	9	4
Alive January, 2012					
Invasive	2 (67%)	6 (86)	7 (23)	11 (37)	1 (5)
In situ	2 (100)	6 (75)	6 (60)	3 (33)	0
Died with cancer					
Invasive	1 (33)	1 (14)	4 (18)	5 (17)	7 (39)
In situ	0	2 (25)	3 (30)	1 (11)	0
Died w/o cancer					
Invasive			12 (52)	12 (40)	10 (56)
In situ			1 (10)	5 (56)	4 (100)

Conclusions: Long term survival is common after removal of small breast cancers.
The patients are likely to succumb to other causes eventually.
Suspicious radiographic lesions are more likely to be carcinoma in situ in younger women, and more likely to be invasive in older women.
Surgically removed carcinoma in situ may have an associated, undiagnosed invasive component or concomitant cancer.

Hemodynamic Instability following Carotid Angioplasty and Stenting: Incidence, Predictors, and Outcomes

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Objective: To explore the incidence, predictors, and outcomes of hemodynamic instability (HI) following carotid angioplasty and stenting (CAS).

Methods: We retrospectively evaluated data on 257 CAS procedures performed in 245 patients from 2002-2011. The presence of periprocedural HI, including hypertension (systolic blood pressure [SBP]>160 mmHg), hypotension (SBP <90 mmHg), or bradycardia (heart rate <60 beats per minute), was recorded. Logistic regression was used to analyze the role of multiple demographic, clinical, and procedural variables.

Results: Mean age was 70.9 ± 9.9 years (66.9% male). Hemodynamic instability occurred following 84.0% (n=216) of procedures and was prolonged (duration>1 hour) in 63.0% of cases. The incidence of hypertension, hypotension, and bradycardia was 53.7%, 30.7%, and 60.3%, respectively. Previous neck intervention (CEA, CAS, dissection, radiation), intraoperative atropine or glycopyrrolate, laterality, presence of carotid symptoms, degree of stenosis, contralateral carotid occlusion, balloon diameter or length, and stent diameter or length were not predictive of HI. Lower preoperative heart rate independently predicted periprocedural HI (71.9 ± 12.1 vs. 79.8 ± 11.3 beats per minute; $P<0.001$). Chronic renal insufficiency was associated with postoperative hypertension (66.7%% vs. 33.3%, $P=0.035$). Presence of HI was not associated with increased risk of postoperative stroke (4.6% vs. 2.4%, $P=1.00$), myocardial infarction (0.5% vs. 0.0%, p=1.0), or mortality (0.5% vs. 0.0%, $P=1.0$). However, patients with prolonged HI trended toward a higher incidence of postoperative stroke (6.6% vs. 0%, $P=0.07$).

Conclusion: Hemodynamic instability represents a common occurrence following CAS. While the presence of periprocedural HI alone did not portend a worse clinical outcome, prolonged HI trended toward increased incidence of postoperative stroke. Expeditious interventions to control or prevent periprocedural HI is of critical importance.

TITLE PAGE

Laparoscopic Ventral Hernia Repair in the Elderly: Does the Type of Hernia Matter?

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ABSTRACT

PURPOSE: To assess the impact of age and type of hernia on the outcomes of laparoscopic ventral hernia repair (LVHR).

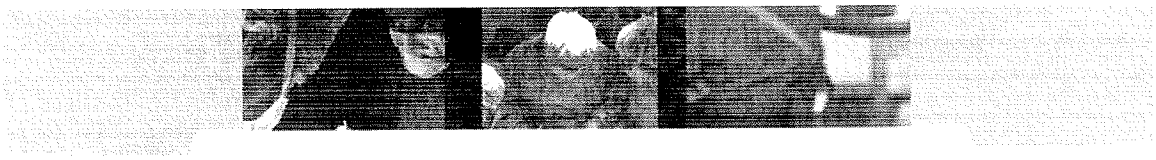
METHODS: Operating room database of all laparoscopic ventral hernias performed from April 2001 to July 2010 was analyzed retrospectively. Patients were divided into two groups: primary hernias (Group 1) and incisional hernias (Group 2). Groups were further stratified into patients <65 years of age (Groups 1A and 2A) and those >65 years of age (Groups 1B and 2B). Patient demographics, hernia characteristics, perioperative outcomes, and disposition at discharge were compared. Statistical analysis was performed using unpaired t-test, chi-square test with Yates correction, logistic regression, and Fisher exact test where appropriate. P-values <0.05 were considered significant.

RESULTS: 325 patients, with a mean age of 56.6 years (Range: 24 - 93 years) underwent LVHR (Table 1). There was no statistically significant difference in perioperative outcomes between younger and older subgroups with primary hernias. The mean length of stay (LOS) was longer (2.7 days vs 1.7 days, p-value =0.02) and the rate of same day discharge was also significantly lower (12% vs 25%, p=0.02) for Group 2B when compared to Group 2A. Three patients in Group 2B, who had been living independently, were discharged to a skilled nursing facility, which proved significantly different when compared with Group 2A. In the incisional hernia group, upon conducting logistic regression, LOS was influenced by age (p-value = 0.002) and ASA (p-value = 0.012) independently as well as together, whereas discharge to home as an independent person was influenced by age alone (p-value = 0.036) but not the ASA.

CONCLUSIONS: Laparoscopic ventral hernia repair in the elderly with primary hernias is safe, and the short-term outcomes are comparable with the younger cohort of patients. Incisional hernias tend to be seen more often in the female population. Older patients with incisional hernias have longer LOS and have a greater need for post-discharge nursing care as compared with their younger counterparts. Identifying this cohort of patients early on helps the health care providers to optimize the outcomes.

Table 1: Demographic data and outcome comparison

	Primary Hernia (Group 1, n=138)		**p value**	**Incisional Hernia (Group 2, n=187)**		**p value**
	< 65 years (Group 1A, n=111)	**> 65 years** (Group 1B, n=27)		**< 65 years** (Group 2A, n=111)	**> 65 years** (Group 2B, n=76)	
Age	Avg: 47.5 years Range: 26-64	Avg 72.5 years Range: 65-80		Avg 51.5 years Range: 25-64	Avg: 72 years Range: 65-88	
Gender	Male: 81 (73%)	Male: 16 (60%)		Male: 39 (35%)	Male: 20 (26%)	
ASA variability	1 = 17(15%) 2 = 72(65%) 3 = 22(20%) 4 = 0	1 = 0 2 = 14(52%) 3 = 12 (44%) 4 = 1(4%)	*0.03*	1 = 7(6%) 2 = 82(74%) 3 = 21(19%) 4 = 1(1%)	1 = 1 (1.4%) 2 = 39(51%) 3 = 34(45%) 4 = 2(2.6%)	*0.002*
Incarcerated hernia	44 (39%)	14 (51%)	0.3	53 (47%)	42 (55%)	0.3
Complex hernia	10 (9%)	2 (7%)	1	45 (40%)	27 (35%)	0.5
Size of hernia mesh	138 ($\pm$ 132) cm^2	126($\pm$ 77) cm^2	0.6	257 ($\pm$ 194) cm^2	216 ($\pm$ 285) cm^2	0.2
Length of Stay	0.7 ($\pm$1) days	0.7 ($\pm$ 0.9)days	0.9	1.7 ($\pm$ 1.95) days	2.7 ($\pm$ 3.7) days	*0.02*
Same day discharge	63 (57%)	13 (48%)	0.5	28 (25%)	9 (12%)	*0.02*
Morbidity	14 (12.6%)	3 (11%)	1.0	21 (19%)	19 (25%)	0.36
Nursing home d/c	0	0		0	3	



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Assessment of Patient Satisfaction and Safety Data regarding the Pre-operative use of Iodine^{125} Radioactive Seed Localization as an Alternative to Wire Localization in Patients with Non-palpable Breast Cancers: Preliminary Results of a Randomized Prospective Trial

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Background:
Pre-operative wire localization (WL) is the standard for patients diagnosed with non-palpable breast cancer requiring excision. WL can be an inaccurate method and may result in significant patient discomfort. An alternative approach to WL is radioactive seed localization (RSL). The objective of this initial analysis was to determine if RSL results in improved patient satisfaction over WL and can be performed safely.

Methods:
Following IRB approval, 39 female patients with non-palpable breast cancer were enrolled between January and December 2011. After informed consent was obtained, patients were randomized to receive either iodine^{125} RSL or WL. Patients were asked to complete a survey about the pain and convenience of their localization procedure.

Results:
Of 39 patients, 1 patient elected mastectomy after randomization and was excluded, for a total of 38 patients. 21 patients (55%) were randomized to RSL and 17 (45%) to WL. One patient in each group had bilateral cancer for a total of 22 and 18 cancers in the RSL and WL groups, respectively. The WL group had slightly higher pain scores compared with the RSL groups (2.5 vs. 2, p=0.13). The RSL group had significantly higher

convenience scores (5 vs. 3, $p<0.001$). There were no complications with RSL. The first patient received two seeds due to poor initial placement; both were retrieved at surgical excision. Another patient had two seeds placed for multifocal disease; one seed was found on the skin of the breast after specimen X-ray demonstrated only one seed. No seeds were lost during localization, surgical excision, or retrieval by pathologist. There have been no surgical wound or infectious complications for either procedure.

Conclusion:
Preliminary results demonstrate that RSL results in less pain and is preferred by patients over WL. Initial safety data demonstrates RSL to be a safe alternative to WL for non-palpable breast cancers.

A Comparison of Skin Closure Techniques After Trauma Laparotomy: Implications for Surgical Site Infection Prevention in High-Risk Patients

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BACKGROUND:

The Center of Disease Control has reported that surgical site infections (SSI) comprise 38% of all nosocomial infections, making it the most common such infection in surgical patients. Patients who develop SSI are more likely to require intensive care unit (ICU) admission, hospital readmission, extended hospital length of stay (LOS), in addition to greater hospital charges and mortality.

Patients requiring emergency trauma laparotomy are often at a greater risk for SSI than those undergoing elective surgery. Such patients with abdominal injuries undergoing laparotomy are often hypothermic, coagulopathic and have ongoing hemorrhage and enteric spillage. Previous reports have described a 9% to 36% SSI rate after trauma laparotomy and have identified several risk factors important to the development of SSI's—increasing patient age, enteric injury, hemorrhagic shock, and blood transfusion.

In hopes of preventing SSI in high-risk trauma patients with these characteristics, many surgeons leave skin incisions either completely open or loosely closed with packing. While scarring and healing time is better in loosely closed skin, it is unclear whether this practice is effective in reducing the risk of SSI. We hypothesized that loosely closing skin incisions after trauma laparotomy is as effective as leaving wounds completely open in preventing surgical site infection.

METHODS:

A retrospective review of all patients who underwent trauma laparotomy and survived > 4 days at our urban, ACS-verified level I trauma center during 2007 to 2008 was undertaken. To standardize the study sample, patients who underwent laparotomy >2 hours after arrival, died within 4 days, or low-risk patients who underwent skin closure were excluded from study analysis. Study inclusion criteria included all patients who underwent trauma laparotomy with skin either left completely open or loosely closed due to risk factors for SSI. Centers for Disease Control definitions for SSI were utilized. Superficial SSI was defined as an infection involving the skin or superficial soft tissues in the areas of the laparotomy incision. Patients were considered "low-risk" for SSI if they did not undergo a damage control laparotomy (abbreviated laparotomy to control hemorrhage and enteric spillage followed by subsequent laparotomy following resuscitation) and had no evidence of enteric injury upon laparotomy.

Patients were compared on the basis of skin closure technique with respect to demographics and clinical variables. Risk factors such as age, weight, diabetes mellitus, tobacco use, hypotension, blood transfusion, intraoperative hypothermia, adherence to SCIP antibiotic guidelines (preoperative antibiotics, correct antibiotic choice, correct timing, antibiotic cessation within 24 hours), the presence of enteric

injuries, damage control procedures, were assessed in each group. Fishers Exact Test was utilized to analyze categorical variables while Students T Test evaluated continuous variables. The primary study endpoint, superficial SSI within 30 days of laparotomy was compared as were secondary outcome measures including fascial dehiscence, evisceration, ICU and hospital length of stay, and mortality. A p-value < 0.05 was considered statistically significant.

RESULTS:

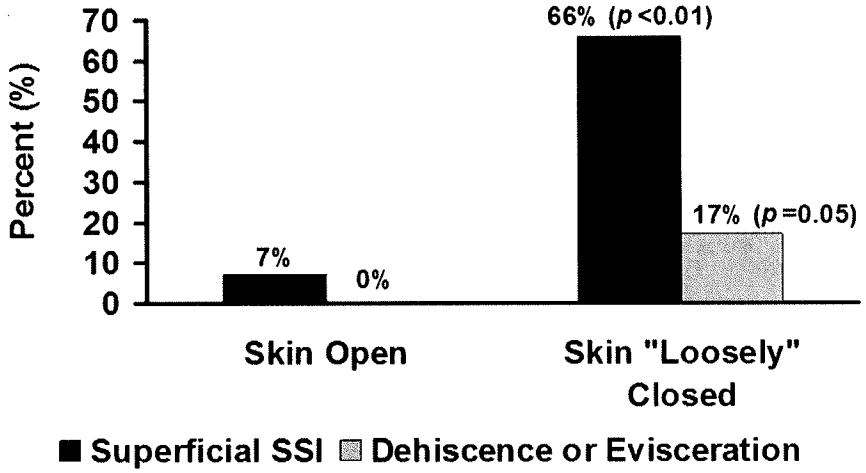
During the study period, 176 patients lived longer than 4 days following trauma laparotomy. Twenty Nine (17%) of these patients were left with skin completely open, 29 patients (17%) were left with their skin loosely approximated, and 118 patients (66%) at low risk for SSI were closed completely. When high-risk patients were compared on the basis of skin management after laparotomy, no differences were detected with respect to numerous known SSI risk factors including age, weight, injury severity score, hypotension, intraoperative hypothermia, blood transfusion, the presence of enteric injuries, and adherence to SCIP antibiotic guidelines (Table 1, all p>0.05).

Table 1. Study Variables with Respect to Skin Closure

	Skin Open (n=29)	Skin "Loosely" Closed (n=29)	p value
Age (years)	41 ± 21	34 ± 18	0.20
Gender (male)	23 (79%)	19 (66%)	0.38
Weight (kg)	82 ± 19	86 ± 22	0.52
Injury Severity Score	21 ± 17	18 ± 7	0.42
Preoperative SBP <90mmHg	12 (41%)	19 (34%)	0.11
OR Core Body Temp <35°C	7 (24%)	11 (38%)	0.40
RBC Transfusion	25 (86%)	22 (76%)	0.51
Total OR Time (min)	124 ± 56	185 ± 63	< 0.01
Enteric Injury	19 (66%)	14 (48%)	0.29
Damage Control Procedure	22 (76%)	17 (59%)	0.42
Complete SCIP Adherence	18 (62%)	11 (38%)	0.11
Prophylactic Antibiotics (days)	2 ± 2	3 ± 4	0.25
Hospital LOS (days)	18 ± 35	27 ± 23	0.31
Mortality	9 (31%)	7 (24%)	0.77

Despite similar baseline and injury characteristics, only 7of 29 (7%) patients with skin left completely open and packed developed a superficial skin infection, while 19 of 29 (66%) with skin loosely closed and packed group developed a superficial SSI (Figure 1, p<0.01).

Figure 1. Superficial SSI and Resulting Fascial Dehiscence



While no patients in the completely open group developed postoperative fascial dehiscence or evisceration, 17% of the loosely closed group did (Figure 1). No differences in either hospital length of stay or mortality were appreciated between study comparison group (Table 1, $p>0.05$).

CONCLUSIONS:

Loose reapproximation and packing of the trauma laparotomy skin incisions does not appear to prevent superficial SSI in high-risk patients. Despite numerous similar baseline demographic, physiologic, and injury characteristics, high-risk patients who had loosely approximated skin after trauma laparotomy were nearly 10 times as likely to develop a superficial SSI as high-risk patients with skin incisions left completely open. Our results suggest that leaving skin incisions completely open for those undergoing damage control laparotomy or repair of enteric injury will prevent superficial SSI.

URINE IODINE EXCRETION LEVELS IN BREAST DISEASE

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We sought to explore iodine status (expressed as urine iodine excretion) in a group of women with a variety of breast diseases to characterize the relationship between iodine and breast physiology.

Demographic and clinical data were recorded and random urine iodine levels were checked in 415 patients over 5 years during clinic visits. Pre menopausal women excreted less iodine in their urine than post menopausal women. Post menopausal women who took hormone supplementation had an excretion level similar to pre menopausal women. Women with breast cancer excreted less iodine than those without, and iodine excretion increased after treatment with aromatase inhibitors (figure 1).

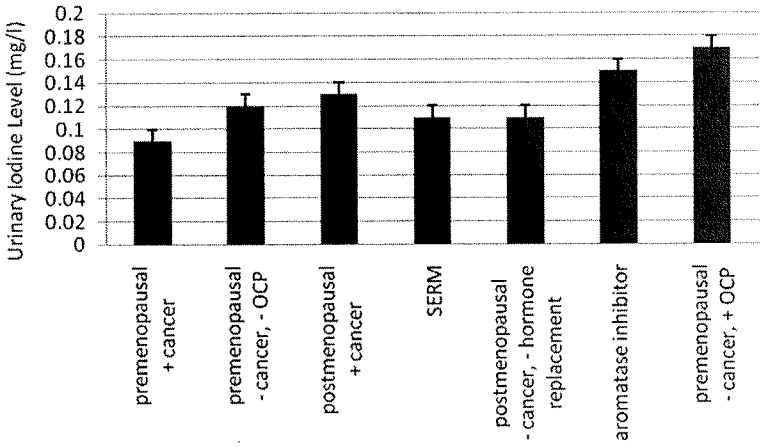

Figure 1. Urinary iodine excretion in various estrogen states ($p < 0.05$).

These results demonstrate that there is a relationship between estrogen status and iodine excretion and suggest that iodine deficiency may play a role in or be a marker of breast cancer in pre menopausal women. Further research will be geared towards assessing the utility of urine iodine levels as an adjuctive screening method for breast cancer screening among these patients.