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Outcomes of Partial Mastectomy with and without Axillary Lymphadenectomy in the ACS NSQIP Database

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RUSH Rush is a not-for-profit health care, education and research enterprise comprising Rush University Medical Center, Rush University, Rush Oak Park Hospital and Rush Health.



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We have no disclosures.

Introduction

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- The recent ACOSOG Z0011 trial suggests that axillary lymphadenectomy (AL) can be avoided for most patients with T1 and T2 clinically node negative cancers undergoing breast-conserving therapy with a positive sentinel node.
- AL increases the morbidity of breast cancer surgery.
- The purpose of this study was to outcomes between partial mastectomy performed with and without AL using the ACS NSQIP database.

Methods

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- ACS NSQIP partial mastectomy patients between 1/1/2005 and 1/1/2013 were identified.
- Demographics and outcomes were compared between patients that had partial mastectomy alone versus with AL.
- Analyses using Fisher exact probability tests, unpaired t-tests, and Chi-square tests were conducted where applicable (www.vassarstats.net).

Results

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- 43,081 patients identified:
 - Partial mastectomy alone (n=35,351)
 - Partial mastectomy with axillary lymphadenectomy (n=7,730)
- AL was performed in 18% of cases
- There were more smokers, regular alcohol consumers, and patients receiving chemotherapy in the AL group ($p < 0.001$).

Results

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Table 1. Preoperative characteristics	Partial mastectomy (n=35,351)	Partial mastectomy with axillary dissection (n=7730)	p value
Non-insulin dependent DM	8.1% (2863)	8.4% (649)	0.3994
Insulin dependent DM	3.1% (1096)	3.3% (255)	0.3833
Current smoker	12.1% (4277)	14.8% (1144)	<0.0001
Alcohol use (>2 drinks per day)	1.0% (354)	1.6% (124)	<0.0001
DNR status	0.1% (35)	0.1% (8)	0.9203
Independent	98.8% (34927)	99.0% (7653)	0.1463
Partially dependent	0.9% (318)	0.8% (62)	0.4463
Totally dependent	0.1% (35)	0.1% (8)	0.9203

Results

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Table 1. Preoperative characteristics	Partial mastectomy (n=35,351)	Partial mastectomy with axillary dissection (n=7730)	p value
Dyspnea with moderate exertion	5.8% (2050)	6.7% (518)	0.0026
Dyspnea at rest	0.2% (71)	0.3% (23)	0.1294
Ventilator dependent	0.0% (0)	0.0% (0)	NA
History of severe COPD	2.7% (954)	2.5% (193)	0.3375
Current pneumonia	0.0% (0)	0.0% (0)	NA
Congestive heart failure	0.1% (35)	0.1% (8)	0.9203
History of myocardial infarction	0.1% (35)	0.1% (8)	0.9203
Previous percutaneous coronary intervention	1.6% (566)	2.0% (155)	0.0139
Previous cardiac surgery	1.4% (495)	1.4% (108)	1
History of angina	0.1% (35)	0.2% (15)	0.0414
Hypertension requiring medication	44.2% (15625)	43.5% (3363)	0.2222
Acute renal failure	0.0% (0)	0.0% (0)	NA
Requiring dialysis	0.2% (71)	2.0% (155)	<0.0001
Hemiplegia/Hemiparesis	0.2% (71)	0.3% (23)	0.1294

Results

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Table 1. Preoperative characteristics	Partial mastectomy (n=35,351)	Partial mastectomy with axillary dissection (n=7730)	p value
History of transient ischemic attack	1.4% (495)	1.5% (116)	0.5323
Cerebrovascular accident without deficit	0.9% (318)	1.0% (77)	0.4583
Cerebrovascular accident with deficit	0.8% (283)	0.9% (70)	0.3897
Disseminated cancer	0.6% (212)	0.9% (70)	0.0033
Chemotherapy	1.4% (495)	4.2% (325)	<0.0001
Radiotherapy	0.2% (71)	0.3% (23)	0.1294
Bleeding disorder	1.6% (566)	1.6% (124)	1
SIRS	0.2% (71)	0.3% (23)	0.1293
History of revascularization or amputation	0.3% (106)	0.3% (23)	0.9203
Open wound	0.6% (212)	0.4% (31)	0.0424
Steroid use	1.5% (530)	1.3% (100)	0.1897
10% loss of body weight	0.2% (71)	0.4% (31)	0.0016
Pregnancy	0.1% (35)	0.2% (15)	0.0414
Prior Operation within 30 days	5.3% (1874)	3.6% (278)	<0.0001

Results

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- There were more patients in the AL group with:
 - Superficial incision infections ($p < 0.0001$)
 - Deep incision infections ($p = 0.018$)
 - Wound disruptions ($p = 0.028$)
 - Sepsis ($p = 0.004$)
 - Unplanned return to the OR ($p < 0.0001$)
- The duration of operation was longer in the AL group ($p = 0.0007$).

Results

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Table 2. Postoperative outcomes	Partial mastectomy (n=35,351)	Partial mastectomy with axillary dissection (n=7730)	p value
30 day mortality	0.0% (15)	0.1% (4)	NA
Superficial incision infection	1.0% (363)	1.6% (123)	<0.0001
Deep incision infection	0.2% (64)	0.3% (25)	0.018
Wound disruption	0.1% (30)	0.2% (14)	0.028
Pneumonia	0.0% (16)	0.1% (4)	NA
Pulmonary embolism	0.0% (14)	0.0% (2)	NA
Acute renal failure	0.0% (4)	0.0% (1)	NA
Urinary tract infection	0.0% (71)	0.2% (14)	0.823
Cerebrovascular accident	0.0% (8)	0.1% (4)	NA
Cardiac arrest requiring CPR	0.0% (4)	0.0% (0)	NA
Myocardial infarction	0.0% (8)	0.0% (2)	NA
Transfusion Intraop/Postop	0.1% (51)	0.2% (14)	0.554
Deep venous thrombosis	0.1% (24)	0.1% (4)	0.791
Sepsis or septic shock	0.1% (29)	0.2% (16)	0.004
Unplanned return to OR	7.7% (778)	9.4% (727)	<0.0001
Average duration of operation (min)	69 +/- 692.5	127 +/- 2867.3	0.0007

Conclusions

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- This is the first study examining the differences among a large group of patients undergoing partial mastectomy with and without AL in the ACS NSQIP database.
- AL is associated with a significantly higher rate of morbidity, such as wound infection, sepsis, and return to the operating room, which leads to prolonged patient recovery and increased medical costs.

REFERENCE

1. Giuliano et al. Axillary dissection vs no axillary dissection in women with invasive breast cancer and sentinel node metastasis: a randomized clinical trial. JAMA. 2011;305(6):569-75.