

Postoperative Outcomes After Staged vs. Coordinated Mastectomy and Bilateral Salpingo-oophorectomy



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Introduction

- Individuals with high-risk gene mutations for breast and ovarian cancer or a breast cancer diagnosis are often given the option to undergo prophylactic bilateral salpingo-oophorectomy (BSO) in addition to mastectomy^{1,2}
- These surgeries can be performed in a coordinated or staged fashion
- Benefits to coordinating may include single operative date, single anesthetic administration, less time off work, and consolidated recovery^{3,4}
- Perceived risks include higher chance of infection and longer operating times

Objective

Compare postoperative complication rates as well as total healthcare costs between patients who underwent coordinated versus staged breast surgery and BSO

Methods

Data Extraction

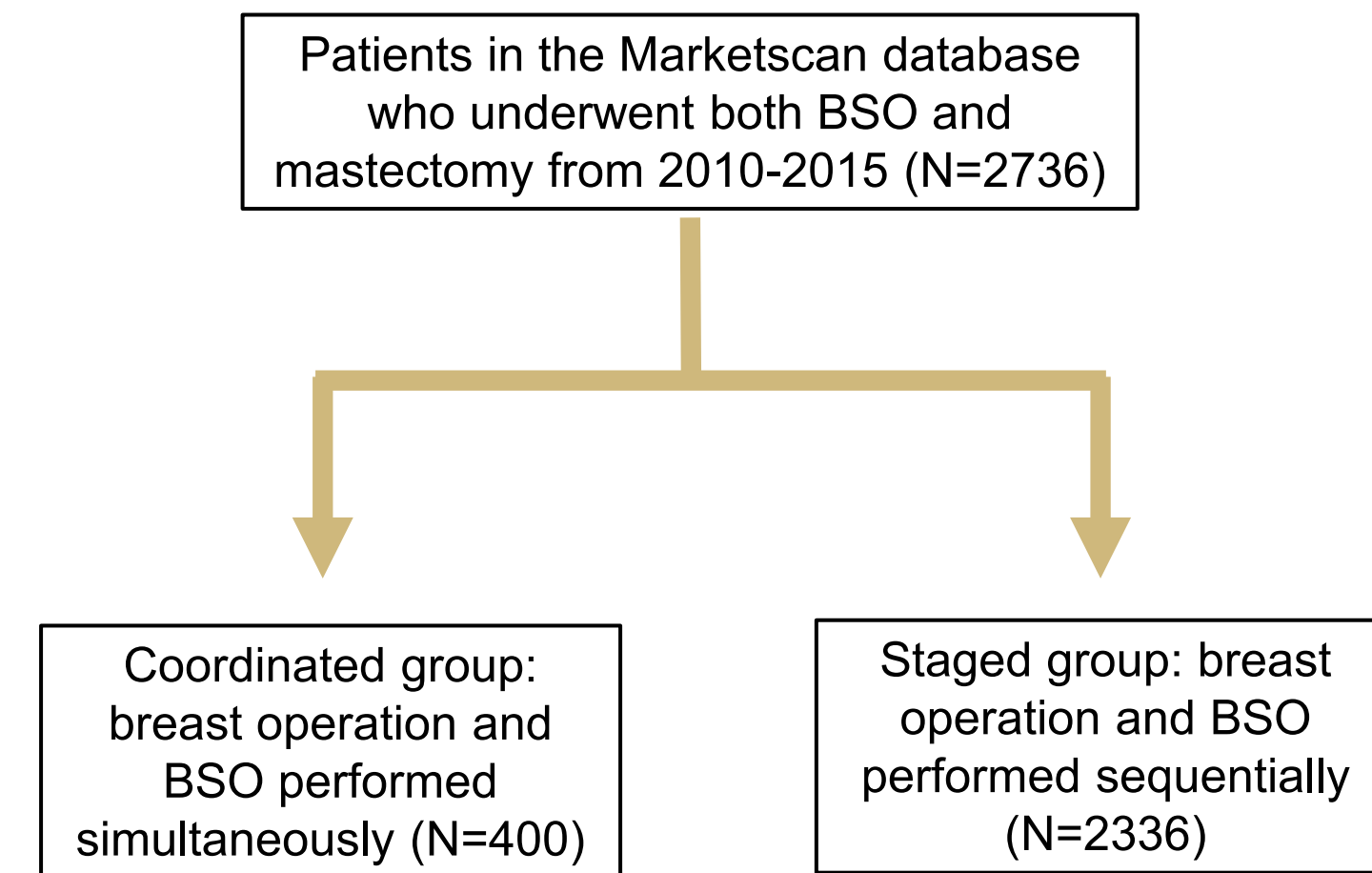
- Billing data from the MarketScan® database were used to identify adult female patients who underwent both mastectomy and BSO between 2010 and 2015 in the United States
- Patients were placed in the coordinated group if a breast operation and BSO were performed simultaneously and were placed in the staged group if both operations were performed separately

Statistical Analysis

- Univariate analyses by chi-squared and Wilcoxon Rank-Sum tests were performed along with multivariable logistic and negative binomial regressions to adjust for risk

Results

#1 Data Extraction Breakdown



#2 Demographics

Characteristics	Coordinated (n=400) N (%)	Staged (n=2,336) N (%)
Age category		
18 - 45	175 (43.8)	977 (41.8)
46 - 55	164 (41.0)	984 (42.1)
>55	61 (15.2)	375 (16.1)
Region		
Northeast	85 (21.3)	611 (26.2)
North central	93 (23.3)	531 (22.7)
South	141 (35.3)	819 (35.1)
West	72 (18.0)	339 (14.5)
Unknown	9 (2.3)	36 (1.5)
Elixhauser Comorbidity Index**		
0 - 1	82 (20.5)	687 (29.4)
2 - 3	215 (53.8)	1,144 (49.0)
> 3	103 (25.7)	505 (21.6)
Year*		
2010	90 (22.5)	625 (26.8)
2011	87 (21.8)	563 (24.1)
2012	76 (19.0)	464 (19.9)
2013	79 (19.8)	395 (16.9)
2014	46 (11.5)	224 (9.6)
2015	22 (5.5)	65 (2.8)

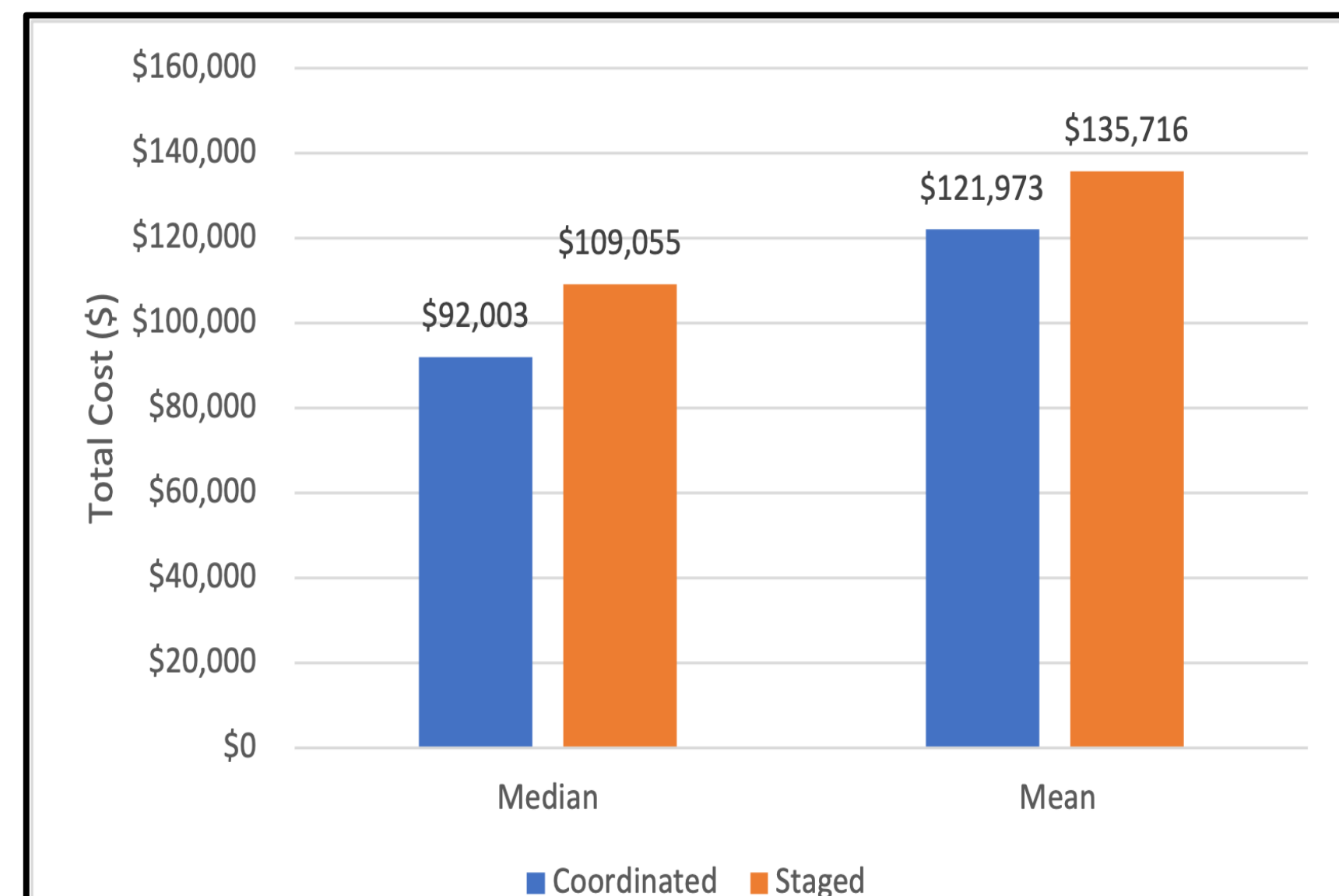
Abbreviations: BSO, Bilateral Salpingo-Oophorectomy
Chi-squared tests were used to evaluate differences between groups
*P value < 0.05
**P value < 0.001

#3 Postoperative Complication Rates

Postoperative complication	Coordinated (n=400) N (%)	Staged (n=2,336) N (%)	P value
Infection	36 (9.0)	238 (10.2)	0.46
Hematoma	9 (2.3)	81 (3.5)	0.20
Seroma*	18 (4.5)	180 (7.7)	0.02
Fat necrosis	13 (3.3)	109 (4.7)	0.20
Dehiscence	23 (5.8)	174 (7.5)	0.22
Implant removal	14 (3.5)	57 (2.4)	0.22
Cardiac	1 (0.3)	6 (0.3)	1.0
Respiratory	2 (0.5)	4 (0.2)	0.21
DVT/PE	8 (2.0)	48 (2.1)	0.94
Any complication*	89 (22.3)	636 (27.2)	0.04

Abbreviations: BSO, Bilateral Salpingo-Oophorectomy, DVT, Deep Vein Thrombosis; PE, Pulmonary Embolism.
Chi-squared and Fisher's exact tests were used to evaluate differences between groups
*P value < 0.05

#4 Total Healthcare Cost Comparison



Discussion

We found lower rates of breast seromas, similar rates of all other complications, and lower aggregate healthcare charges in patients who underwent coordinated surgery.

- Previous literature is discordant^{5,6}
- Factors thought to influence higher cost in staged include multiple admissions, repeat anesthesia, longer operative times, and multiple recovery periods and medications

Limitations

- Retrospective study possibly influenced by selection bias
- Limitations to data retrieval from MarketScan
- Cost analysis time frame

Implications

- Coordinating breast surgery with BSO may be both safe and cost-effective when compared to performing these operations separately

Next Steps

- Identify impact of coordinating surgeries on other factors such as length of stay, operative time, and time to adjuvant therapy
- Determine which patients may be appropriate candidates for coordinated mastectomy and BSO

Disclosures

Supported in part by the Shared Resource of the Colorado Cancer Center Support Grant P30CA046934 and University of Colorado Department of Surgery Academic Enrichment Fund Seed Grant

Citations

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