

29 Cost and Utility of Sentinel Lymph Node Biopsy in Patients Undergoing Breast Conservation Surgery for DCIS

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Background

Current guidelines do not recommend sentinel lymph node biopsy (SLNB) for ductal carcinoma in situ (DCIS) in breast conservation surgery (BCS), but if a patient has a final surgical diagnosis of invasive cancer, another operation is necessary to stage the axilla. Despite the recommendation, practice patterns vary, as some surgeons choose to perform SLNB on patients undergoing BCS for DCIS. This study aimed to evaluate the surgical cost data between patients undergoing lumpectomy alone and with SLNB to determine the value of this practice.

Materials and Methods

A single-center retrospective study of 260 patients from 2015-2020 who underwent initial lumpectomy for DCIS with or without concurrent SLNB. Demographics, tumor characteristics, and financial data were obtained. Basic statistical analyses were done to compare costs.

Results

Of the 260 patients, 36 had simultaneous SLNB. Eleven of these patients were upstaged to invasive cancer but none of these 36 patients had a positive lymph node. Their final stages were: 3 T1miN0, 2 T1aN0, and 6 T1bN0. The average cost of BCS with SLNB per patient was \$4311. Of the other 224 patients who did not have concurrent SLNB, 22 were upstaged to invasive cancer and only they underwent reoperation to stage the axilla. Of these 22 patients, 1 had a positive lymph node and 1 had isolated tumor cells; the others did not have metastatic cancer. The final stages were: 2 T1miN0, 11 T1aN0, 5 T1bN0, 3 T1cN0, 1 T1cN1. For this group, the average cost of the lumpectomy was \$3681 and the average cost of the SLNB was \$3075; the total cost was \$6756. When comparing the cost for the groups, if SLNB was done only on patients who were upstaged and required it, there would be a total cost savings of \$154,575. Regarding tumor characteristics of those upstaged to invasive cancer, they were commonly grade 3, comedo histology, and receptor status was ER+/PR+ in 26/33 patients. The upstage rate from DCIS to invasive cancer was 12.7%.

Conclusions

This study shows that there is a cost savings benefit when doing SLNB only on patients with invasive cancer. It also has a lower upstage rate than that reported in literature. These data suggest that SLNB should not be performed on everyone with DCIS. Certain tumor characteristics should be considered when deciding on SLNB during an initial lumpectomy. Further studies are needed to delineate patient populations that would benefit from combined surgery.

34 12-Year Review of Surgical Outcomes in Implant-Based Reconstructions With Modification and Optimization of Mastectomy Flap Geometry and Soft Tissue Quality: a Retrospective Review of 900 Implant-Based Breast Reconstructions

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Background

Implant-based reconstructions are the most common form of postmastectomy reconstruction. Mastectomy flap necrosis is a dreaded complication leading to poor outcomes and patient dissatisfaction. The correct surgical technique when performing mastectomy flap elevation is a key factor in flap viability. Mastectomy flaps are random dermal flaps; therefore, in addition to anatomically correct flap dissection and elevation, a favorable flap length-to-base ratio is of great importance. Traditional mastectomy incisions used a simple elliptical excision of the central breast skin, including the nipple-areolar complex, and resulted in broad-based and short mastectomy flaps or random dermal flaps; therefore, in addition to

anatomically correct flap dissection and elevation, a favorable flap length-to-base ratio is of great importance. Traditional mastectomy incisions used a simple elliptical excision of the central breast skin, including the nipple-areolar complex, and resulted in broad-based and short mastectomy flaps. Over the last 20 years, skin-sparing mastectomies, as well as complete skin-sparing nipple-sparing mastectomies with immediate reconstruction, have gained popularity. Preserving all or most of the skin envelope resulted in much longer mastectomy flaps. Additionally, the mastectomy flaps now also include the central breast skin with its extreme paucity of subcutaneous fat as well as the nipple-areolar complex with a complete absence of subcutaneous fat, and a merge of the ductal parenchyma with the dermal plane. These long and central breast areas, very thin flaps, were now used to cover the prosthetic devices. This resulted in double-digit reports of mastectomy skin necrosis, as well as increased rates of infections, seromas, implant loss, reoperations, and poor patient outcomes. We describe a simple modification of the mastectomy skin envelope, which allows for the recruitment of thicker chest wall skin over the implants, a shortening of overall mastectomy flap length, and a doubling up of soft tissue in the lower implant pocket by using a de-epithelialized dermal flap. Nipple-sparing procedures are achieved by grafting the nipple-areolar complex as a full-thickness graft onto the correct anatomical position on the mastectomy.

Methods

A retrospective chart review was performed of all patients who underwent wise pattern modification of their mastectomy flaps and implant-based reconstructions from 2010 to 2022 by the

first author. Demographic, clinical, and operative data were recorded. Outcomes were assessed by evaluation of surgical complication rates, including mastectomy flap necrosis, seroma, hematoma infection, capsular contracture, and implant loss.

Results

Nine-hundred-and-four wise pattern mastectomies were performed in 509 patients with a mean age of 52.5 years and a mean body mass index of 28.8. In the cohort, 28 (3.3%) patients were active smokers, 30 were diabetic (5%), and 135 (14.5%) mastectomies underwent chest wall radiation. Complication rates compared favorably to published data of non-wise pattern mastectomies with implant-based reconstructions. We encountered major mastectomy flap necrosis in 15 breasts (1.6%), capsular contracture in 57 patients (6.3%), major infection in 21 breasts (2.3%), implant loss in 26 breasts (2.8%), seroma in 3 breasts (0.3%), and hematoma in 5 breasts (0.5%) of reconstructed breasts. Major infections were the leading cause of temporary or permanent implant loss. All capsular contractures occurred in radiated patients.

Conclusions

The results of this large cohort study of mastectomy reconstructions over 12 years with a modified mastectomy skin envelope to optimize mastectomy flap viability in immediate implant-based reconstructions show that overall complication rates are reduced compared to data published in the literature. While clinical results are encouraging, further anatomical studies on the vasculature and soft tissue thickness of the modified versus traditional flaps are needed.