



Breast Reconstruction following Total Skin-sparing Mastectomy and Reduction

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Introduction

Originally for patients with small and early-stage tumors, total skin-sparing mastectomy (TSSM) is now being used in individuals with larger tumors and more advanced disease. However, women with large or ptotic breasts are still excluded from undergoing TSSM, due to the long mastectomy flaps and decreased blood flow distally increasing the risk of nipple necrosis. Studies indicate that TSSM is safe in patients with prior circumareolar incisions. We thought it possible to broaden the criteria of TSSM to include women with large or ptotic breasts by first offering these patients a reduction mammoplasty or mastopexy. In this study we report outcomes for women undergoing first stage breast reduction or mastopexy, second stage TSSM with immediate tissue expander placement, and third stage delayed permanent reconstruction.

Methods

Eleven patients (17 breasts) with large or ptotic breasts underwent TSSM and breast reconstruction following reduction mammoplasty or mastopexy at UCSF between 2005 and 2014. All patient characteristics and outcomes were collected retrospectively from patient medical records.

Results

Table 1: Patient Characteristics

Chemotherapy	
None	6 (55%)
Before reduction	2 (18%)
Between reduction and TSSM	3 (27%)
After TSSM	0 (0%)
Hormonal therapy	
None	6 (55%)
Before reduction	3 (27%)
Between reduction and TSSM	1 (9%)
After TSSM	1 (9%)
Laterality of cancer	
None	1 (9%)
Unilateral	9 (82%)
Bilateral	1 (9%)
Radiation (by breast, n=17)	
None	14 (82%)
Before reduction	1 (6%)
Between reduction and TSSM	1 (6%)
After TSSM	1 (6%)
Reason for TSSM (by breast, n=17)	
Prophylactic	6 (35%)
Therapeutic	11 (65%)
Time between reduction and TSSM (days), mean± SD	171±56 (63-264)
Time between TSSM and exchange (days), mean± SD	173±136 (65-489)

Table 2: Surgical Outcomes

	Stage 1: Reduction (n=17 breasts)	Stage 2: TSSM (n=17 breasts)	Stage 3: Reconstruction (n=15 breasts)
Hematoma	0 (0%)	1 (6%)	0 (0%)
Seroma	1 (6%)	0 (0%)	1 (7%)
Skin Flap necrosis	0 (0%)	0 (0%)	0 (0%)
NAC necrosis			
Partial	0 (0%)	1 (6%)	0 (0%)
Complete	0 (0%)	0 (0%)	0 (0%)
Wound dehiscence	0 (0%)	0 (0%)	1 (7%)
Infection	3 (18%)	2 (12%)	2 (13%)
Local cancer recurrence	0 (0%)	0 (0%)	0 (0%)
Distant cancer recurrence (n=11)	0 (0%)	1 (9%)	0 (0%)
Reoperation in general	1 (6%)	2 (12%)	3 (20%)
Implant loss	N/A	0 (0%)	1 (7%)

Conclusions

TSSM and breast reconstruction following breast reduction resulted in low levels of complications. Rates of nipple-areolar complex (NAC) necrosis, infection, implant loss, cancer recurrence, and other post-operative complications were similar to those following TSSM and breast reconstruction in women with smaller breasts who fit the typical TSSM criteria and did not undergo a prior breast reduction. Our study was limited to a small patient population of eleven women. Additional studies with larger patient populations are needed to make more definitive conclusions on the safety and outcome of TSSM following reduction in large or ptotic breasted women.