

Quality of Life and Patient-Reported Outcomes in Breast Cancer Survivors: A Multi-Center Comparison of Four Abdominally-Based Autologous Reconstruction Methods

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INTRODUCTION: Approximately 20% of women select autologous tissue for postmastectomy breast reconstruction, and most commonly choose the abdomen as the donor site. An increasing proportion of women are seeking muscle-sparing procedures but the benefit remains controversial. It is therefore important to determine whether better outcomes are associated with these techniques, thereby justifying longer operative times and increased costs.

MATERIALS AND METHODS: Patients from five North American centers were deemed eligible if they had reconstruction using the deep inferior epigastric artery perforator flap (DIEP), muscle-sparing free transverse abdominis myocutaneous flap (msf-TRAM), free transverse abdominis myocutaneous flap (f-TRAM), or the pedicled transverse abdominis myocutaneous flap (p-TRAM) with a minimum one-year follow-up. Patients were sent the BREAST-Q[®]. Demographics and complications were collected by chart review.

RESULTS: 1790 charts were analyzed representing 670 DIEP, 293 msf-TRAM, 683 p-TRAM, and 144 f-TRAM patients. Average follow up time for the cohort was 5.5 years (Table 1). The rate of flap loss was low and did not differ by flap type. Partial flap loss and fat necrosis differed by flap type and were highest in the pTRAM group (8.9%; $p=0.002$ and 25%; $p<0.001$ respectively). Rates of hernia/bulge and hernia/bulge requiring surgery were significantly different between groups with p-TRAM displaying the highest rates (16.6%; $p<0.001$ and 10%; $p<0.001$ respectively). 943 patients responded to the BREASTQ[®] for a response rate of 53% representing 387 DIEP, 359, 123 msf-TRAM, p-TRAM and 74 f-TRAM patients. Satisfaction with outcome and physical well-being (abdomen) BREASTQ scale scores differed significantly with the highest scores in the DIEP group (Table 2). All significant results remained after controlling for age, time since surgery, BMI, laterality, and mesh placement.

CONCLUSION: We have shown that complication profiles and patient-reported outcomes differ by flap type when comparing the four most common abdominally-based breast reconstruction techniques. The results of this study favour the DIEP flap when choosing between the four studied techniques as it is associated with the highest patient-reported satisfaction with outcome and physical well-being (abdomen) as well as the lowest rate of abdominal wall morbidity.

FIGURE LEGEND:

Table 1. Patient Demographics. DIEP, deep inferior epigastric artery perforator flap; msTRAM, muscle-sparing free transverse rectus abdominis myocutaneous flap; pTRAM, pedicled transverse rectus abdominis myocutaneous flap; fTRAM, free transverse rectus abdominis myocutaneous flap; BMI, body mass index; SD, standard deviation.

Table 2. BREASTQ© Outcomes. DIEP, deep inferior epigastric artery perforator flap; msTRAM, muscle-sparing free transverse rectus abdominis myocutaneous flap; pTRAM, pedicled transverse rectus abdominis myocutaneous flap; fTRAM, free transverse rectus abdominis myocutaneous flap; SD, standard deviation.