Title: Autologous breast reconstruction after failed implant based reconstruction; evaluation of outcomes and patient reported satisfaction and quality of life

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PURPOSE: High patient satisfaction can be seen in both implant based and autologous breast reconstruction. However, there is a subset of patients who initially had implant based reconstruction but later change to autologous reconstruction after failure of the implant reconstruction. Few studies have examined this patient population and none have used a validated survey tool to analyze patient reported satisfaction and quality of life. The purpose of this study was to examine our series of patients in whom autologous tissue based reconstruction was performed after initial failed implant reconstruction, using the BREAST-Q to examine patient satisfaction and quality of life.

METHODS: After Institutional Review Board approval, a retrospective chart review of a prospectively maintained database was performed for patients who underwent autologous breast reconstruction following failed implant based reconstruction. Demographic information, motivations for changing from implant based to autologous reconstruction, and surgical details were collected. Changes in patient reported satisfaction and quality of life were evaluated using available BREAST-Q surveys.

RESULTS: One hundred thirty-seven patients underwent autologous breast reconstruction following failed implant based reconstruction. Average age was 51.4 years (SD+/-8.9) and average BMI was 27.0 (SD+/-3.9). Fifty-five cases were bilateral (40%) and 82 were unilateral (60%) for 192 total flaps. The most commonly cited motivations for changing to autologous reconstruction were as follows: capsular contracture causing pain and/or cosmetic deformity (n=106, 77%), dissatisfaction with the aesthetic result without capsular contracture (n=15, 11%), impending exposure of the implant/infection (n=8, 6%), and unknown (n=8, 6%). Time from implant placement to implant removal and autologous reconstruction averaged 53 months (SD+/-43). Flap types included: DIEP (n=92, 48%), msTRAM (n=79, 41%), pedicled TRAM (n=13, 7%), SGAP (n=4, 2%) and DUG (n=4, 2%). Complications requiring operative intervention included: partial flap loss (n=5, 3%), hematoma (n=5, 3%), vascular compromised requiring intervention for salvage (n=2, 1%), and total flap loss (n=1, 1%). Thirty-four patients (23%) had BREAST-Q surveys available at both time points: post implant based reconstruction but before autologous reconstruction and after autologous reconstruction. There was a statistically
significant increase in satisfaction with appearance of breasts (p<0.001), psychosocial well-being (p=0.02), and physical well-being of the chest and upper body (p=0.04). Satisfaction with overall outcomes was also significantly increased (p<0.001). A statistically significant decrease in physical well-being of the abdomen was observed (p<0.001).

**CONCLUSIONS:** Autologous breast reconstruction after failed implant based reconstruction is associated with significantly improved patient satisfaction and quality of life. However, there is a decrease in satisfaction of the abdominal donor site, found using a validated instrument. The procedure has an acceptable complication rate and should be considered in any patient with failed implant based reconstruction.