Regional and National Trends over 20 Years in One-Stage vs Two-staged Implant Based Breast Reconstruction

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INTRODUCTION: Approximately 70% of patients undergoing reconstruction following mastectomy will receive implant-based breast reconstruction. However, the literature reports inconsistent breast reconstruction (BR) rates in terms of one-stage versus two-staged reconstruction protocols. The aim of this study was to assess national and regional trends in one-stage versus two-stage implant based breast reconstruction in the United States.

PATIENTS AND METHODS: A serial cross-sectional study of immediate implant-breast reconstruction trends was performed using the Nationwide Inpatient Sample database from 1992 to 2012. Data on mastectomy rates, reconstructive protocol (one-stage/two-stage), and sociodemographics were obtained and analyzed.

RESULTS: In total, 35,233 (14.8%) patients underwent one-stage vs 202,722 (85.2%) undergoing two-staged breast reconstruction. Following an initial increase in one-stage BR from 16.3% to 20.1% until 1997 (p<0.001), a drop to 13.9% was observed in 2012. Two-stage BR rates increased from 83.7%, in 1992, to 86.1% in 2012 (p<0.001). In both groups patients were more likely to be 40-49 years of age, Caucasian, to have private insurance and to undergo unilateral reconstruction. A majority of both one-stage and two-stage BR were performed in the Southern region of the USA (29.7% and 30.2% respectively). Interestingly, one-stage BR rates grew mostly in the Northeast region, while two-stage BR showed the biggest increase in the Midwest.

CONCLUSION: In the United States, two-staged implant based breast reconstruction followed a significantly positive trend particularly in middle-aged white females. Whereas one-stage BR has been increasingly reported in the Northeast, two-staged implant based BR has gained most of its popularity in the Midwestern region.