Adapting Perspectives: Analyzing Dynamic Shifts in Breast Surgical Trends and Reconstructive Choices Over 15 Years

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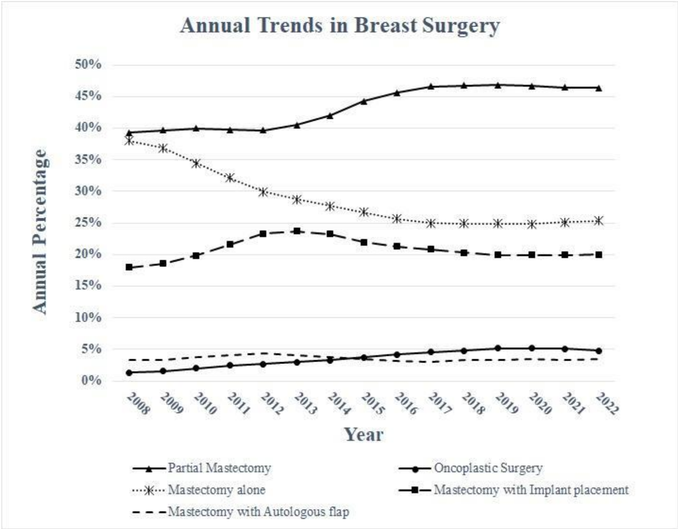
Background

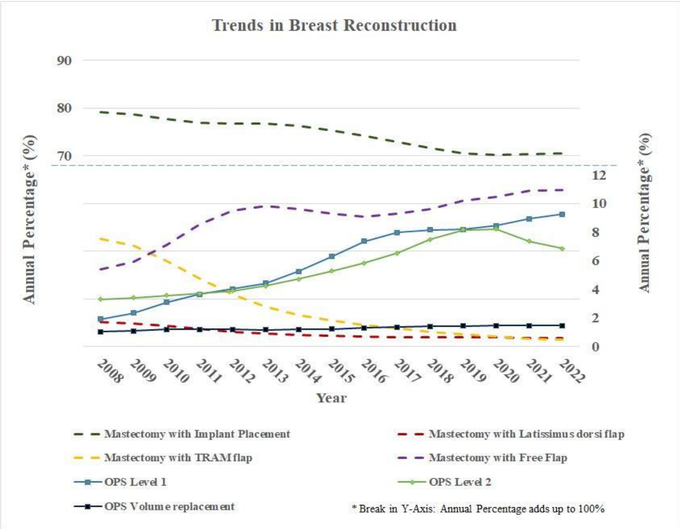
- Novel approaches in breast cancer surgical care emerged over the last 15 years.
- Plastic surgery no longer applies only to post mastectomy reconstruction.
- Newer techniques in oncoplastic surgery involve reconstruction after breast conserving partial mastectomies.

Objectives

- Primary Aim: Contemporary analysis of breast cancer surgical trends focusing on partial mastectomy(PM), mastectomy without reconstruction(MAST), mastectomy with autologous reconstruction(M+AR), mastectomy with implant reconstruction(M+IR), and oncoplastic surgery(OPS).
- Secondary Aim: Investigate trends across all aspects of breast reconstruction, specifically oncoplastic surgery.

Results



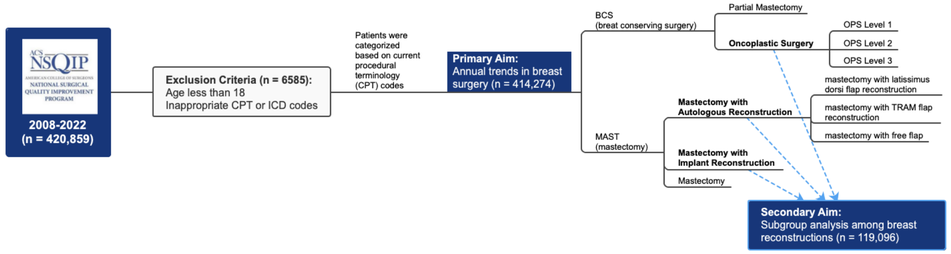


- 420,859 patients met inclusion.
- 119,096 patients in subgroup analysis had reconstructive surgery.
- OPS surgery group had a significant increase across all sub-categories: Level 1 OPS 1.6% to 9.5%, Level 2 OPS 3.2% to 6.2%, and volume replacement OPS 0.9% to 1.4% (all $p<0.01$).

- Annual breast surgery trends from 2008 to 2022: PM 39.3% to 46.4%, MAST 38% to 25.3%, OPS1.3% to 4.8% (all $p<0.01$).
- Mastectomy with implant reconstruction 18% to 20%, and mastectomy with autologous reconstruction 3.4% to 3.5% (both $p>0.05$).
- Reconstruction after mastectomy procedures declined aside from those receiving free flap reconstruction: M+IR 78.6% to 70.2%, MAST with latissimus dorsi flap 1.7% to 0.6%, MAST with TRAM flap 7.9% to 0.4%, and MAST with free flap 5.3% to 11.2%.

Methods

- Retrospective cohort analysis using 2008-2022 ACS-NSQIP Database.
- Patients categorized based on CPT codes.
- Subgroup Trend analysis on each reconstructive surgical group focusing on types of oncoplastic surgery performed.
- Data analysis was conducted via Pearson's chi-squared test for demographics, linear regression, and a non-parametric Mann-Kendall test to assess a temporal trend and Sen's slope.



Conclusions

- Study results provide a comprehensive analysis of demographic profiles and surgical trends across common breast interventions and reconstructive surgeries.
- Study findings suggest the shift towards oncoplastic surgery and advanced reconstructive techniques is not only continuing but becoming the standard of care in an accelerating response to broader healthcare and social dynamics.