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Nationwide Trends in Breast Reconstruction in Korea (2015-2023) A Decade of Change Following Insurance Coverage Expansion



연세대학교 원주의과대학
원주세브란스기독병원
성형외과학 교실

전우상, 이훈범, 김석원, 김지예*

Purpose: To characterize nationwide trends in breast reconstruction (BR) in Korea after National Health Insurance (NHI) coverage expansion in April 2015, focusing on changes in annual volume, reconstructive technique, operationally defined timing, and facility-level concentration.

Methods: Using Korean National Health Insurance Service (NHIS) claims data, BR procedures performed between January 2015 and December 2023 were identified (procedure codes N7140-N7150). Reconstructions were categorized as autologous (N7140-N7147) or implant-based (N7148-N7150). Reconstruction timing was operationally defined by same-day concurrence with total mastectomy claims (N7130, N7135): concurrent cases were classified as immediate BR and non-concurrent cases as delayed BR. Facility type was classified as tertiary hospital, general hospital, or clinic. Temporal trends were assessed using linear regression and categorical comparisons using chi-square tests.

Results: A total of 56,129 BR procedures were identified from 2015 to 2023. Annual BR volume increased from 3,201 in 2015 to 6,317 in 2023 (1.97-fold; $p < 0.001$) (Fig. 1). Implant-based reconstruction increased from 1,817 (56.8%) in 2015 to 5,178 (82.0%) in 2023, whereas autologous reconstruction decreased from 1,384 (43.2%) to 1,139 (18.0%) ($p < 0.001$) (Fig. 2). Operationally defined immediate BR increased from 2,084 (65.1%) in 2015 to 5,193 (82.2%) in 2023 ($p < 0.001$) (Fig. 3). BR remained concentrated in tertiary hospitals, increasing from 74.3% in 2015 to 78.7% in 2023 (Fig. 4).

Conclusion: Following NHI coverage expansion, breast reconstruction volume in Korea nearly doubled, with a marked shift toward implant-based and operationally defined immediate reconstruction and persistent concentration in tertiary hospitals. These findings may inform system-level planning for long-term implant surveillance and equitable access to reconstructive services.

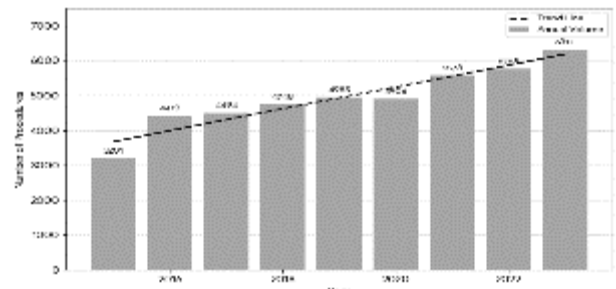


Fig. 1. Trends in annual volume of breast reconstruction (2015-2023).

Annual counts of breast reconstruction procedures identified from NHIS claims data are shown by year. The dashed line represents the fitted linear trend.

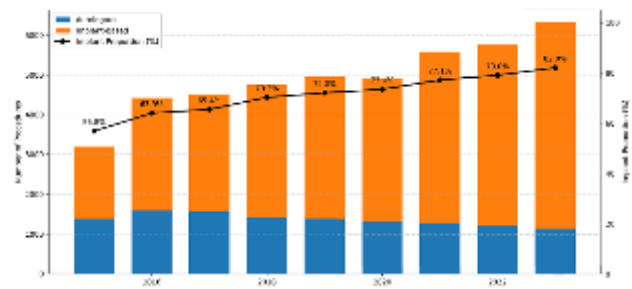


Fig. 2. Trends in reconstruction technique and implant proportion (2015-2023).

Annual numbers of autologous and implant-based breast reconstructions are presented, with the implant-based proportion (%) overlaid as a line.

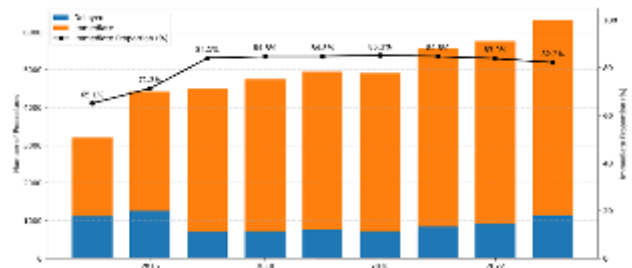


Figure 3. Trends in reconstruction timing and proportion of immediate reconstruction (2015-2023).

Annual numbers of operationally defined immediate and delayed breast reconstructions are shown, with the proportion of immediate reconstruction (%) overlaid as a line. Immediate reconstruction was defined as breast reconstruction claims concurrent with total mastectomy on the same day.

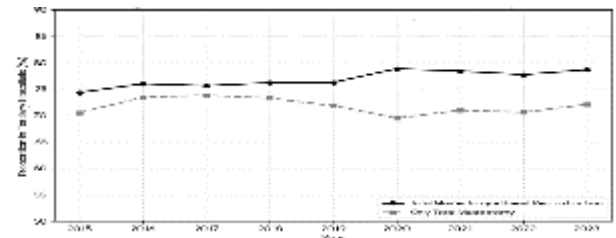


Figure 4. Proportion of procedures performed in tertiary hospitals (2015-2023).

The yearly proportion of total mastectomy cases with breast reconstruction and total mastectomy only cases performed in tertiary hospitals is shown.