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유방보존수술 후 무세포동종진피를 이용한 유방종양성형술의 유용성

(Usefulness of ADM Assisted Oncoplastic Breast Reconstruction Following Breast Conserving Surgery)



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Purpose: After breast-conserving surgery (BCS), localized defects can be challenging to reconstruct with volume displacement techniques alone. Acellular dermal matrix (ADM) has been proposed as an oncoplastic material to supplement volume and reduce contour deformity. This study evaluated the safety and clinical usefulness of ADM assisted oncoplastic breast reconstruction following BCS.

Methods: Between October 2020 and September 2023, 43 patients who underwent partial mastectomy followed by volume displacement with ADM assistance were retrospectively analyzed. The number of ADM sheets (1-2), insertion techniques (sheet/stacked/rolling), and placement planes (below the skin flap/below glandular tissue/within the defect) were tailored to defect characteristics (Fig. 1). Patients were assessed preoperatively and at 1, 3, 6, and 12 months post-operatively (Fig. 2 & 3). Breast shape and symmetry were evaluated clinically, complications were recorded, and structural integrity of the ADM were evaluated radiologically.

Results: Mean age was 49.3 years, and median follow-up was 32 months. ADM insertion techniques included sheet (n=32), stacked (n=2), and rolling (n=9). Planes were below the skin flap (n=21), below glandular tissue (n=13), and within the defect (n=9), with mean ADM size of 31.2 cm². Within 1 year, five patients (11.6%) experienced eight complications, including seroma, hematoma, wound-related complications, and red breast syndrome. No major complications, such as flap loss or fat necrosis, were observed. Radiotherapy was administered postoperatively by standard oncologic protocols.

Conclusion: ADM-assisted breast reconstruction after BCS provides effective volume supplementation and contour preservation with a relatively simple technique. This approach demonstrated low complication rates and stable outcomes, even in patients receiving postoperative radiotherapy.

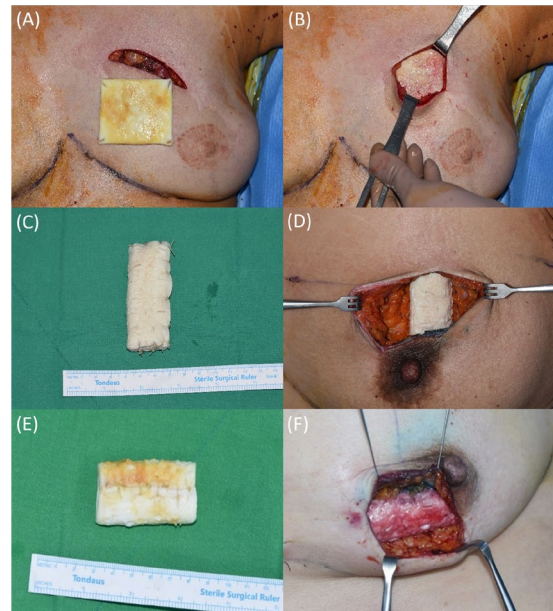


Fig. 1. (A), (B) Intraoperative images. ADM (Megaderm 5x6cm, 3-5mm) insertion using sheet method within the defect. (C), (D) ADM (Megaderm 6x12cm, 3-5mm) insertion using stacked method within the defect. (E), (F) ADM (Megaderm 5x6cm, 3-5mm) insertion using rolling method within the defect.

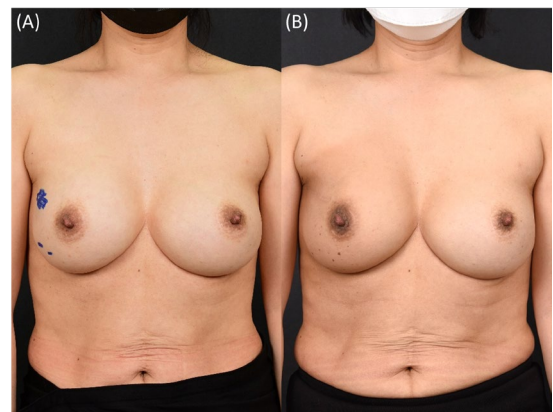


Fig. 2. Sheet-method ADM assisted oncoplastic breast reconstruction after BCS. (A) Preoperative photograph. (B) 6.9 months after operation.



Fig. 3. Rolling-method ADM assisted oncoplastic breast reconstruction after BCS. (A) Preoperative photograph. (B) 2 years after operation.