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장기 혈액투석 환자에서 ADM을 이용한 Prepectoral 임플란트 기반 즉시 유방재건

(Immediate Prepectoral Implant-based Breast Reconstruction using Acellular Dermal Matrix in a Patient Undergoing Long-term Hemodialysis)

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Purpose: Patients with end-stage renal disease (ESRD) undergoing maintenance hemodialysis are considered high-risk candidates for elective reconstructive procedures due to impaired wound healing, immune dysfunction, and increased susceptibility to infection. Evidence regarding implant-based breast reconstruction in this population remains limited. We report a case of immediate implant-based breast reconstruction using acellular dermal matrix (ADM) in a patient receiving long-term hemodialysis.

Methods: A 65-year-old woman with ESRD, HBV carrier status, and hypertension underwent nipple-sparing mastectomy followed by immediate breast reconstruction using a prepectoral implant placement technique with ADM support. A 170-cc smooth-surface, round, moderate classic profile silicone implant (Mentor; REF 350-7170MC, LOT 2033787, SN 2033787-047) was used, along with a 16 × 16 cm ADM (thickness 1.0–2.0 mm; SCDERM RECON, 250192S0002). Perioperative management was coordinated with the nephrology team, including optimization of dialysis timing and fluid balance. Preoperative hemodialysis was performed at a local medical center on the day prior to surgery, followed by surgery. Postoperative hemodialysis was resumed on postoperative day 1 at our institution and continued at 2-day intervals on weekdays until discharge. Hemodialysis was performed using a standard bicarbonate-based dialysate consisting of Hemosol® A solution (5.5 L) and BiBag® powder (650 g). A 1 g bolus of cefazolin was administered as empirical antibiotic prophylaxis preoperatively. No antibiotics were administered postoperatively

Results: Perioperative laboratory findings after hemodialysis demonstrated no clinically significant electrolyte imbalance, with Na/K/Cl levels of 144/4.9/97 mmol/L preoperatively and 153/4.3/107 mmol/L postoperatively. Renal function parameters, including BUN (mg/dL), Cr (mg/dL), and eGFR (mL/min/1.73 m²), were 32.2/4.89/9 preoperatively and 21.5/3.50/13 postoperatively, consistent with ESRD status and showing appropriate post-dialysis changes. The postoperative course was uneventful despite the patient's high-risk condition. Major complications, including hematoma, seroma, surgical site infection, wound dehiscence, or implant loss, did not occur. With a body mass index of 27.7, surgical drain removal was achieved within the expected postoperative period, with the 100-cc Jackson–Pratt drain removed on postoperative day 9 and the 400-cc Hemovac on postoperative day 11. The patient underwent hemodialysis on postoperative day 13 in accordance with her regular schedule and was discharged on postoperative day 14, with a total hospital stay of 16 days. The patient achieved stable reconstruction with satisfactory aesthetic outcomes during follow-up.

Conclusion: This case suggests that immediate implant-based breast reconstruction using ADM may be a feasible option even in patients undergoing long-term hemodialysis when careful multidisciplinary perioperative management is implemented. Larger studies are warranted to further evaluate its safety and clinical applicability.

Fig. 1. Preoperative photograph of a 65-year-old woman with ESRD prior to unilateral nipple-sparing mastectomy and implant-based reconstruction with ADM support. The lesion, measuring 2.7 × 3.1 cm, extends into the superior aspect of the upper outer quadrant.

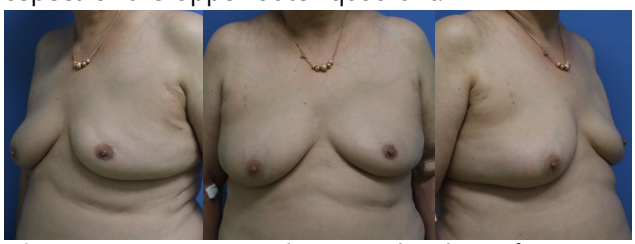

Fig. 2. Postoperative photograph taken after 6months 22 days after implant placement. No major complications occured,.