

## **Outcomes after Nipple-Sparing Mastectomy and Immediate Implant-Based Breast Reconstruction in Patients with Ptotic Breasts**

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**Background:** Nipple-sparing mastectomy (NSM) has become popular due to its well-established oncologic safety profile and improved aesthetic outcomes with preservation of the nipple-areolar complex (NAC). Patients with large, ptotic breasts, are generally not considered ideal candidates for NSM because of the risk of NAC necrosis. This study aims to describe outcomes after NSM incorporating either an inferior dermal flap or simultaneous mastopexy and immediate implant-based breast reconstruction in patients with Grade II or III ptosis.

**Methods:** A retrospective chart review was performed of all patients with Grade II or III ptosis who underwent NSM and immediate implant-based breast reconstruction performed by a single surgeon from 2016-2019. Demographic, clinical and operative characteristics were reviewed and recorded. Complication rates including, NAC necrosis, mastectomy skin flap necrosis, dehiscence, infection, seroma, hematoma, capsular contracture, implant loss, implant malposition, disease recurrence and metastatic disease were reviewed.

**Results:** Thirteen patients (26 breasts) were identified who underwent bilateral NSM and immediate implant-based breast reconstruction during the study period. Eight patients (16 breasts) with Grade III ptosis underwent NSM via a Wise pattern mastectomy incision and inferior dermal flap and immediate breast reconstruction with placement of a silicone implant in a single-stage (4 patients) or placement of a tissue expander followed by silicone implant in a two-stage procedure (12 patients). Five patients (10 breasts) with Grade II ptosis underwent NSM via a vertical pattern mastectomy incision and periareolar mastopexy and immediate breast reconstruction with placement of a tissue expander followed by silicone implant in a two-stage procedure. Complications requiring reoperation occurred only in patients who underwent NSM via Wise pattern mastectomy incision for Grade III ptosis. NAC necrosis requiring excisional debridement occurred in 34.6% (9 breasts), wound dehiscence in 7.7% (2 breasts), mastectomy skin flap necrosis in 3.8% (1 breast), seroma in 3.8% (1 breast) and expander exposure requiring replacement in 3.8% (1 breast).

**Conclusions:** Nipple-sparing mastectomy incorporating either an inferior dermal flap or simultaneous mastopexy may be a viable method of immediate implant-based

breast reconstruction in patients with ptotic breasts. Nipple areolar complex necrosis is the most common complication and the risk of a complication is higher for patients with Grade III ptosis compared to patients with Grade II ptosis. Further studies with a larger number of subjects are needed to evaluate the efficacy of nipple-sparing mastectomy with inferior autologous dermal flap for immediate implant-based breast reconstruction in patients with large and ptotic breasts.