

BACKGROUND

Nipple sparing mastectomy (NSM) helps to preserve natural breast anatomy and improve patient satisfaction but was previously contraindicated in patients with large or ptotic breasts. Mastopexy or breast reduction is increasingly performed prior to NSM in these patients to improve vascularity to the nipple-areolar complex (NAC) and decrease risk of necrosis. A variety of outcomes have been reported on these two consecutive procedures depending on the interval between operations. This multi-center review aims to evaluate the safety, efficacy, and optimal timing of staged mastopexy or breast reduction prior to NSM.

RESULTS

Twelve studies meeting the inclusion criteria were included, with a combined sample of 308 patients and 552 breasts.

- Mean age: 45.04 years (SD = 2.05)
- Mean BMI: 28.61 (SD = 3.92)
- Mean Follow-up: 14.55 months
- Mean interval between mastopexy & NSM: 9.35 months

Complications:

- Partial & complete NAC necrosis: **4.17%** (23/552 breasts)
- Skin flap necrosis: **2.72%** (15/552 breasts)

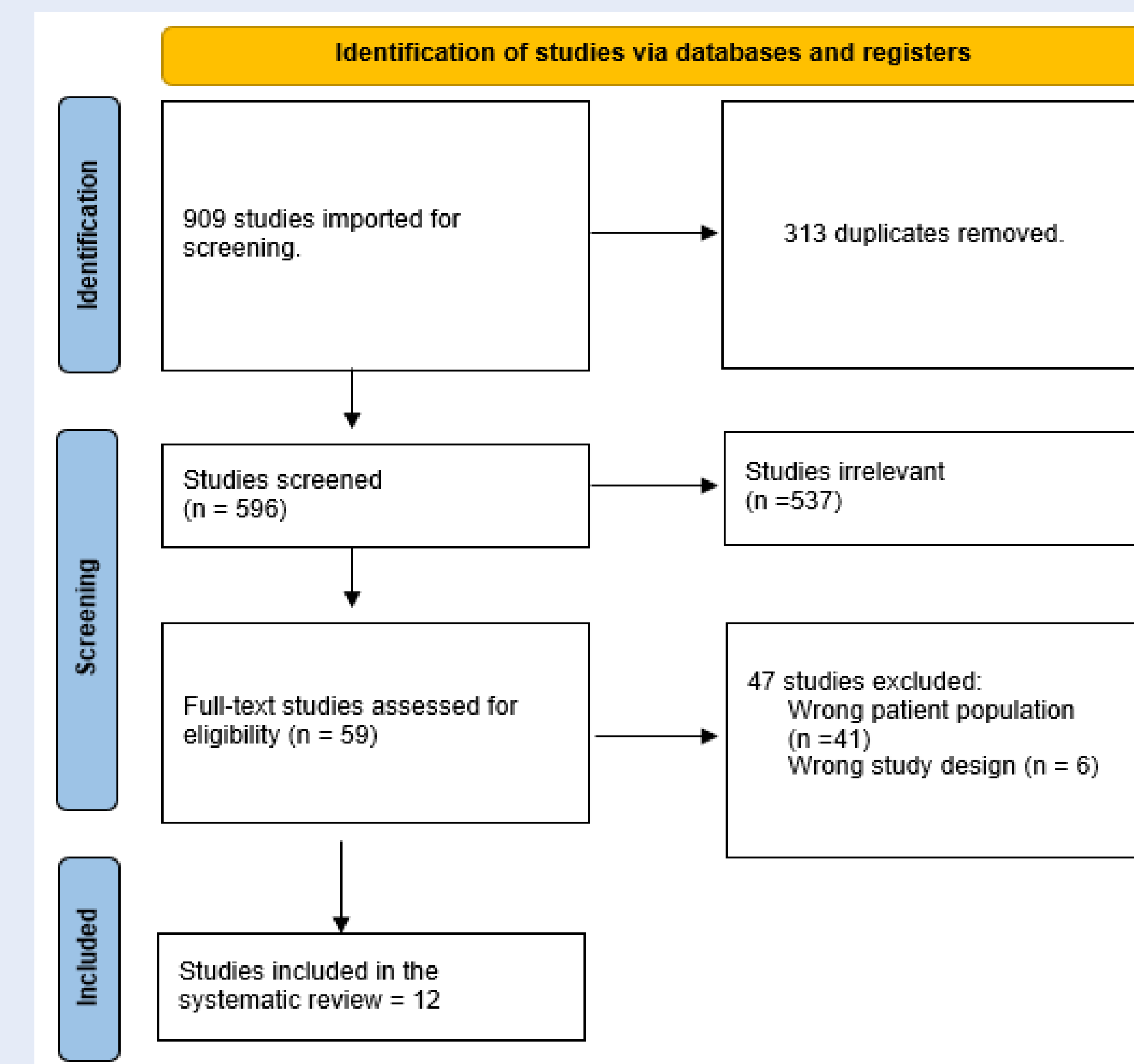
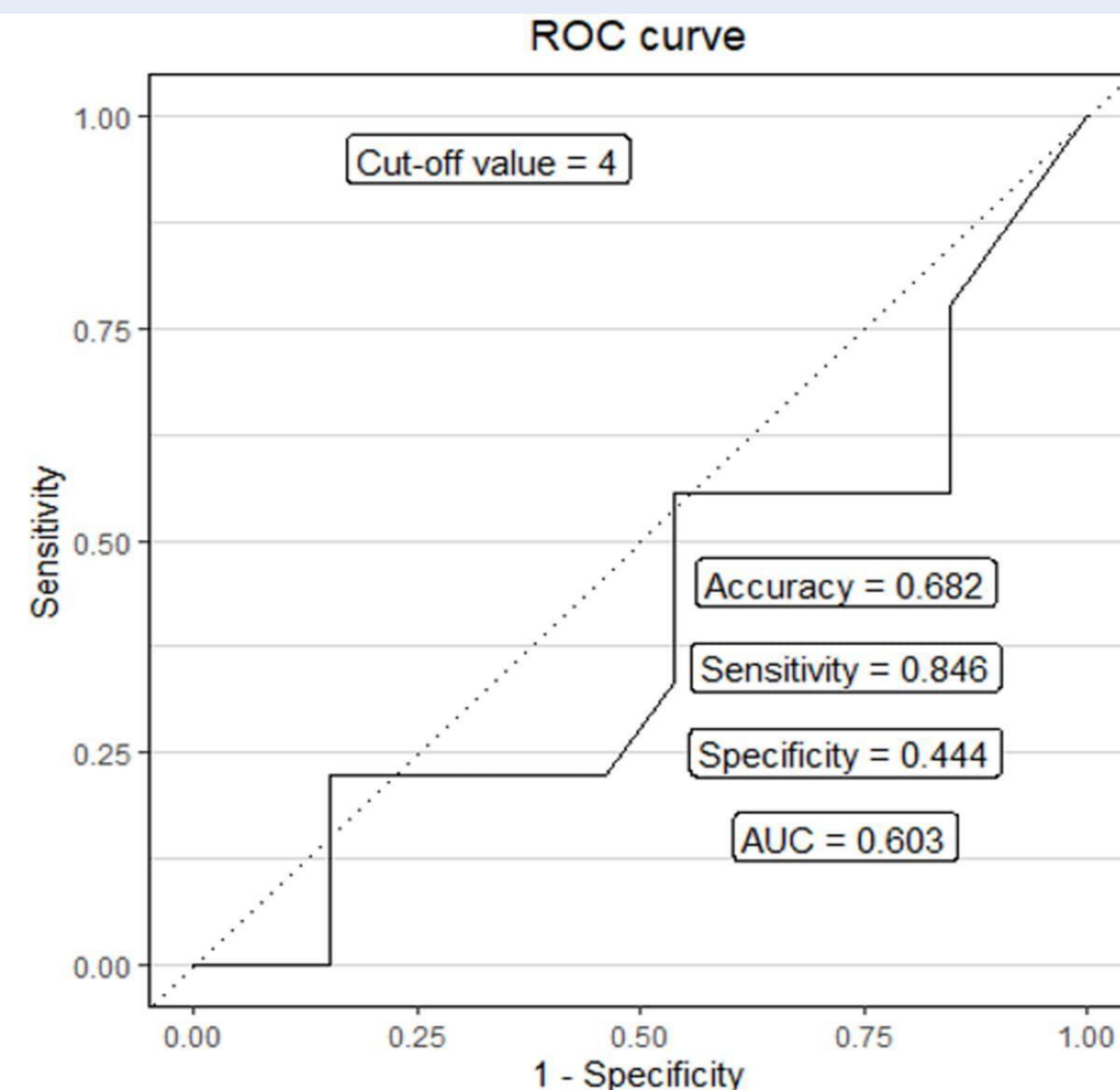
The number of included studies was not satisfactory for a reliable non-parametric correlation test. Instead, by means of ROC analysis, **an interval of 4 months or longer was associated with lower odds of NAC necrosis** (partial or complete; n = 12 studies, sensitivity 84.6%, specificity 44.4%).

METHODS

Databases searched: PubMed (MEDLINE), Scopus, and Web of Science.

Inclusion criteria: observational studies investigating NSM following mastopexy that reported outcomes on complication rates, oncologic control, patient satisfaction, and aesthetic outcomes.

Exclusion criteria: editorials, systemic reviews, meta-analyses, case reports, animal studies, and studies without data on NSM following mastectomy. Studies where mastopexy was performed after NSM were also excluded.



CONCLUSION

Decision making for nipple-sparing mastectomy is multifaceted, particularly for patients with large or ptotic breasts. Staging a mastopexy or breast reduction prior to NSM with an appropriate time interval can improve local neovascularization and reduce the risk of necrosis. Although our analysis suggests that a 4-month interval or longer may minimize complications, further research with larger sample sizes and randomized controlled trials comparing staged and nonstaged approaches is necessary to establish definitive guidelines.