



Dermabond for Reduction Mammoplasty Revisited: Effects on Postoperative Wound Healing

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Introduction

- Wound dressing following reduction mammoplasty can be conducted using surface 2-Octyl cyanoacrylate (Dermabond; Ethicon, Inc., Somerville, N.J.)^{1,2,3}
- The effect on long-term wound healing in these patients is inconclusive⁴
- We present an updated review of **Dermabond's safety and efficacy** in reduction mammoplasty patients

Methods

Retrospective analysis **n = 554 patients (1068 breasts)**

- All reductions done by the same senior surgeon
- March 2015–February 2023
- Uni- and bilateral reductions included

Surgical Technique: inferior or superomedial pedicle reduction approach with an inverted-T Wise pattern used for all patients

- Dermabond:** Four vials (0.5mL/vial) Dermabond + sterile gauze dressing
- No Dermabond:** Bacitracin + non-adherent gauze + sterile gauze dressing

Statistical Analysis: Demographic, operative time, and postoperative complication data collected from patient records and summarized with descriptive statistics

- Student's t-test or Wilcoxon rank sum test for continuous variables and Fisher's exact test for categorical variables to evaluate differences in demographics and postoperative outcomes between groups
- Univariate and multivariate logistic regression with Firth's correction to accommodate low frequencies of complications used to calculate odds ratios (ORs), adjusted odds ratios (aORs), and 95% confidence intervals (CIs).

Results

Of **554 patients:**

- Average age = 38 ± 15 years old
- Average pre-operative BMI = 30.9 ± 5.0
- All identified as female
- 16% had hypertension, 5.3% had diabetes, 2.4% were current smokers

Post-operative Characteristics:

After up to a 2-year follow-up:

- 114 (10.7%) breasts had nipple insensitivity
- 44 (4.1%) had wound dehiscence
- 21 (2.0%) had fat necrosis
- 1.0% or less had seroma, hematoma, hypertrophic scarring, or nipple necrosis

Dermabond a significant predictor of **increased rates of dehiscence, hypertrophic scarring, and major complications** (hematoma, dehiscence, nipple necrosis, or fat necrosis) after adjusting for baseline demographics (Table 1, Model 1).

After adjusting for operative and post-op characteristics, Dermabond remained a significant predictor of **dehiscence and major complications** (Table 1, Models 2 & 3).

Of their **1068 breasts:**

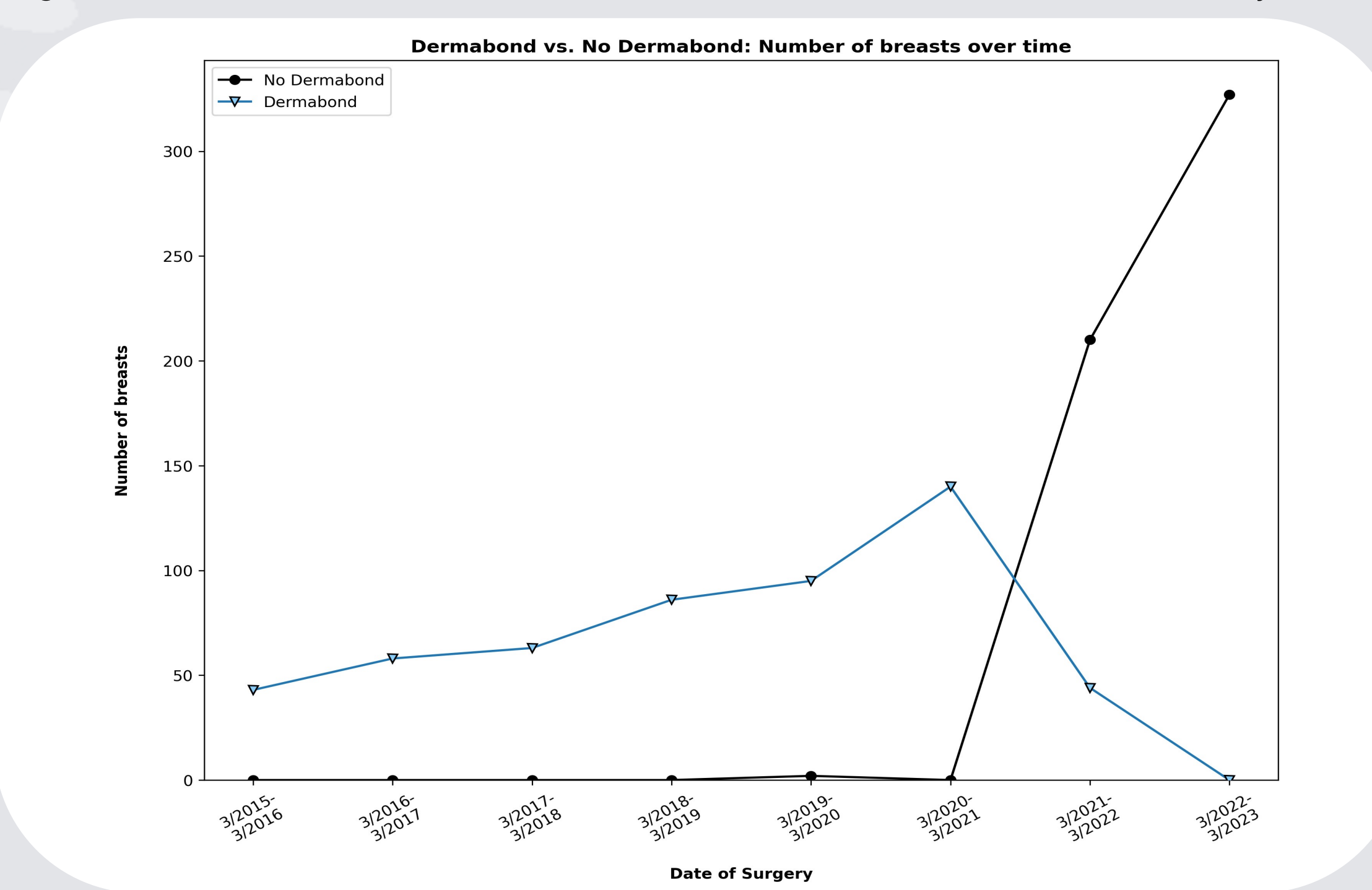
529 (49.5%) got Dermabond
539 (50.5%) did not

Dermabond alone was significantly predictive of **increased rates of dehiscence, hypertrophic scarring, fat necrosis, and decreased rates of nipple insensitivity** (Table 1).

Operative Characteristics:

- Dermabond use was consistent for reduction mammoplasty dressings from 2015 through early 2020.
- Due to lower costs and surgeon preferences, practice reverted to traditional dressings after 2020 (Figure 1).

Figure 1. Distribution of the count of Dermabond vs. no Dermabond use over time by breast



Conclusions

By conferring similar procedure time and higher rates of postoperative complications, **Dermabond's use as wound dressing following our institution's reduction mammoplasty cases is not superior to the traditional dressing method.**

References:

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- Nipshagen MD et al. Use of 2-octyl-cyanoacrylate skin adhesive (Dermabond) for wound closure following reduction mammoplasty: a prospective, randomized intervention study. *Plast Reconstr Surg.* 2008;122(1):10-18. doi:10.1097/PRS.0b013e318171524b

Table 1. Multivariate regression assessing association of Dermabond use and individual wound complications

	Unadjusted OR	p-value	Model 1 aOR	p-value	Model 2 aOR	p-value	Model 3 aOR	p-value
Seroma	0.74 (0.25 - 2.25)	0.599	0.74 (0.27 - 2.03)	0.602	1.14 (0.28 - 4.51)	0.868	1.44 (0.39 - 5.33)	0.644
Hematoma	0.61 (0.19 - 1.97)	0.399	0.57 (0.20 - 1.63)	0.351	1.93 (0.43 - 5.98)	0.552	1.53 (0.43 - 5.42)	0.607
Dehiscence	18.7 (5.20 - 67.5)	< 0.001	17.1 (4.96 - 58.7)	< 0.001	16.0 (3.78 - 68.0)	< 0.001	17.9 (4.40 - 72.9)	< 0.001
Infection	1.86 (0.75 - 4.57)	0.169	1.87 (0.80 - 4.38)	0.168	1.96 (0.62 - 6.20)	0.287	2.08 (0.71 - 6.12)	0.235
Nipple Insensitivity	0.66 (0.45 - 0.98)	0.038	0.67 (0.45 - 1.00)	0.050	0.67 (0.37 - 1.21)	0.182	0.64 (0.35 - 1.18)	0.159
Hypertrophic Scarring/Keloid	8.67 (1.59 - 47.4)	0.001	10.3 (2.29 - 46.4)	< 0.001	1.31 (0.18 - 9.31)	0.822	0.55 (0.07 - 4.05)	0.674
Fat Necrosis	3.12 (1.18 - 8.26)	0.014	2.27 (0.89 - 5.78)	0.091	1.40 (0.40 - 4.89)	0.619	1.37 (0.41 - 4.61)	0.654
Major Complication	5.72 (3.04 - 10.76)	< 0.001	5.56 (2.93 - 10.55)	< 0.001	8.11 (4.04 - 16.27)	< 0.001	7.99 (3.92 - 16.30)	< 0.001
Minor Complication	0.95 (0.67 - 1.33)	0.755	0.94 (0.66 - 1.33)	0.727	1.10 (0.72 - 1.69)	0.658	1.18 (0.76 - 1.83)	0.458

Model 1 adjusts for demographic characteristics: age, smoking history, hypertension, diabetes, Caprini Score, history of breast cancer, prior breast surgery, and history of weight loss.

Model 2 adjusts for operative and post-operative characteristics: weight of tissue removed, procedure duration, barbed suture use, pedicle choice, drain usage, liposuction performed, time to last follow-up.

Model 3 adjusts for all the factors that were included in both Models 1 and 2.