

Preoperative SSRI/SNRI Exposure is Associated with Increased Postoperative Complications In Cosmetic Breast Surgery: A Multi-Institutional TriNetX Cohort Study



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INTRODUCTION

- Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) may increase perioperative bleeding risk by reducing intraplatelet serotonin and impairing platelet aggregation.
- In plastic surgery, the evidence has been mixed, with prior studies limited by small sample sizes, single-center design, and procedure-specific cohorts
- Cosmetic breast procedures are common elective operations in which hematoma, infection, and wound complications can meaningfully affect outcomes, recovery, and revision risk.

PURPOSE

- This study evaluates whether preoperative SSRI/SNRI exposure is associated with higher early postoperative complication rates in aesthetic breast surgery.
- Primary outcome: bleeding/hematoma composite at 7, 15, and 30 days.
- Secondary outcomes: surgical-site infection and wound dehiscence at the same postoperative time points.

METHODS

- Retrospective cohort study performed using the TriNetX Research Network.
- Included adults undergoing cosmetic breast augmentation with implant, reduction mammoplasty, or mastopexy.
- Excluded oncologic, reconstructive, and revision cases.
- Patients with recent anticoagulant or antiplatelet exposure were excluded.
- Exposure group: SSRI/SNRI record within 90 days before surgery. Comparator group: no SSRI/SNRI record within 6 months preoperatively.
- Outcomes were analyzed as risk ratios with 95% confidence intervals; significance was defined as p<0.05.
- 1:1 nearest-neighbor propensity-score matching was performed across covariates.

POSTOPERATIVE OUTCOMES AFTER PROPENSITY-SCORE MATCHING

Outcome	7 DAYS			15 DAYS			30 DAYS		
	RD	RR	P	RD	RR	P	RD	RR	P
Bleeding/hematoma	0.27%	1.42	<0.04	0.43%	1.34	<0.02	0.49%	1.28	<0.02
Infection	NS	—	NS	0.35%	1.42	<0.02	0.97%	1.60	<0.0001
Wound dehiscence	NS	—	NS	NS	—	NS	0.96%	1.95	<0.0001

RD = risk difference; RR = relative risk; P = p value; NS = no significant difference

KEY BASELINE CHARACTERISTICS OF MATCHED COHORTS

Characteristic	SSRI/SNRI Cohort (n=9,058)	No SSRI/SNRI Cohort (n=9,058)
Age at index, mean ± SD	39.3 ± 14.6	39.3 ± 14.7
White race	71.7%	72.0%
Black/African American race	12.4%	12.4%
Hispanic or Latino ethnicity	6.9%	6.3%
Tobacco use	2.3%	2.3%
Nicotine dependence	8.2%	7.7%
Alcohol-related disorders	2.6%	2.6%
Diabetes mellitus	6.8%	6.5%
Overweight/obesity	28.4%	29.1%
Coagulopathy	2.6%	2.3%
Anemia	10.3%	10.3%
Liver disease	5.7%	5.3%
Chronic kidney disease	1.6%	1.3%
Hypertension	19.9%	19.6%

All post-match standardized differences were <0.1, indicating good covariate balance between cohorts.

RESULTS

- A total of 77,921 patients met inclusion criteria; 9,341 had preoperative SSRI/SNRI exposure.
- After matching, 9,058 exposed patients were compared with 9,058 unexposed patients, with good covariate balance across all variables.
- At 7 days, SSRI/SNRI exposure was associated with increased bleeding/hematoma risk: 0.94% vs 0.67% (RR 1.42, p < 0.04).
- At 15 days, elevated bleeding/hematoma risk persisted: 1.67% vs 1.24% (RR 1.34, p < 0.02). Infection was also increased: 1.19% vs 0.84% (RR 1.42, p < 0.02).
- At 30 days, exposed patients had higher risks of bleeding/hematoma: 2.22% vs 1.73% (RR 1.28, p < 0.02), infection: 2.58% vs 1.61% (RR 1.60, p < 0.0001), and wound dehiscence: 1.98% vs 1.02% (RR 1.95, p < 0.0001).
- Absolute event rates were low, but relative risk increases were consistent across postoperative time points.

CONCLUSIONS

- Preoperative SSRI/SNRI exposure was associated with higher early postoperative complication rates after cosmetic breast surgery.
- The earliest signal was increased bleeding/hematoma risk, followed by higher rates of infection and wound dehiscence by 30 days.
- Although absolute risks were modest, these findings support heightened postoperative vigilance in aesthetic breast patients taking serotonergic antidepressants.
- The results may help inform preoperative counseling and shared decision-making regarding continuation of SSRIs/SNRIs before elective cosmetic breast procedures.
- Prospective studies are needed to refine risk stratification and perioperative management protocols in this population.

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