



Surgical and Patient-Reported Outcomes of 694 Two-Stage Prepectoral vs. Subpectoral Breast Reconstructions

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Background

- Over the past decade, there has been increasing interest in reviving use of the prepectoral plane for device placement
 - The purpose of this study was to assess the differences in complication rates and patient satisfaction between patients who underwent prepectoral and subpectoral implant-based breast reconstruction (IBR).
- ### Methods
- We conducted a retrospective cohort study of patients who underwent IBR at our institution from January 1, 2018, through December 31, 2019.
 - Patients who underwent a two-stage approach (TE followed by implant placement) were included. W
 - We excluded patients who underwent direct-to-implant or delayed-immediate reconstruction (TE followed by a free flap). Patients who underwent subpectoral TE followed by prepectoral implant or vice versa (site switches) were excluded.
 - Device location was based on individual surgeon practice and was not related to differences in mastectomy flap thickness or viability.
 - The study cohort was divided into those who underwent prepectoral TE (placed above the pectoralis muscle) and those who underwent subpectoral TE (dual plane).

Results

- A total of 694 reconstructions in which IBR was performed were identified in 481 patients during the study period.
- The TE was placed in the prepectoral plane in 83% of these reconstructions, while 17% had a subpectoral TE.
- The mean BMI was higher in the prepectoral group (27 vs. 25 kg/m2, p=0.001), whereas age and other comorbidities were similar between the two study cohorts.
- Patients in the prepectoral group were less likely to have undergone postoperative radiotherapy (p=0.001).

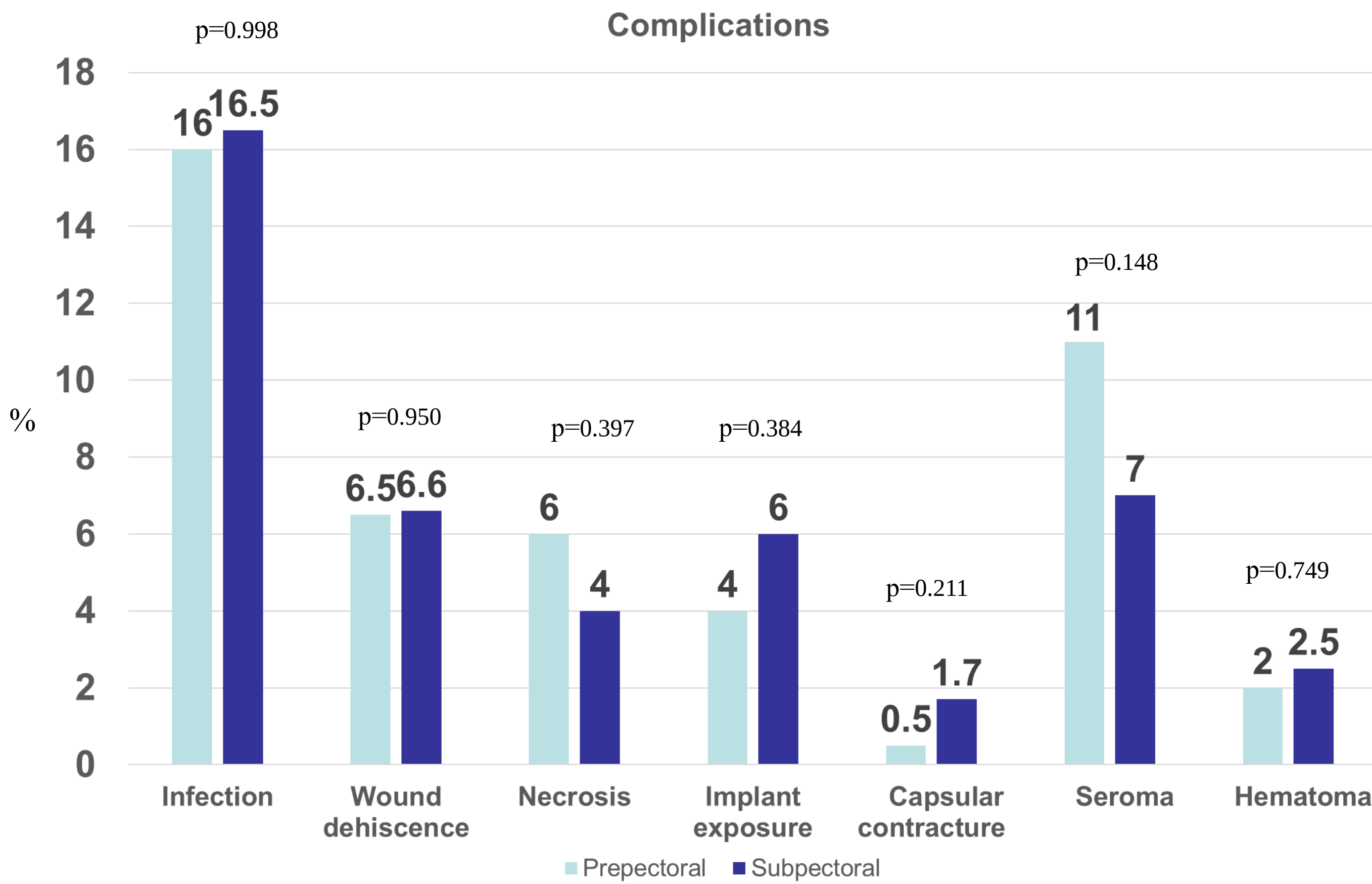


Fig.1 Complication rates in prepectoral and subpectoral patients.

- The overall complication rates were very similar between the two groups: 29% in the prepectoral and 29% in the subpectoral group (p=0.887).
- Rates of individual complications were also similar between the two groups (**Figure 1**).
- Length of follow-up was greater in the subpectoral cohort (median 18 vs. 16 months, p=0.009
- Mean BREAST-Q scores for satisfaction with the breast, psychosocial well-being, and sexual well-being were similar between the two groups (**Table 1**)

	Prepectoral		Subpectoral		
Number of patients	121		28		
	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	p-value
Satisfaction with breast	62.5 ±22.6	64 (47, 78)	62.3 ± 26.7	65.5 (42, 80)	0.942
Psychosocial well-being	73.5 ± 21.2	74 (60, 93)	68.1 ± 26.4	67.5 (55.5, 90)	0.394
Sexual well-being	50.5 ± 24.4	50 (36, 66)	47.3 ± 31.3	43 (22, 70)	0.421
Months between reconstruction and survey completion	28.4 ± 6.8	28.66 (23.1, 33.8)	31.5 ± 8.2	33.82 (24.4, 38.6)	0.030

Table 1. Patient-reported outcomes (BREAST-Q)

Multivariable Analysis

- Device location was not associated with overall complications, infection, major complications, or device explantation.
- Greater age and BMI were independent predictors of developing both a complication and a device infection.
- BMI, smoking, hypertension, and preoperative chemotherapy were found to be independent predictors of major complications, while BMI and preoperative chemotherapy were independent predictors of device explantation.

Conclusion

- Prepectoral breast reconstruction results in similar surgical outcomes and patient satisfaction compared to subpectoral IBR.

References

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