

Are Prophylactic Post-operative Antibiotics Indicated for Implant-based Breast Reconstruction?: A Randomized-Controlled Pilot Study

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Background

High rates of post-operative infections in women who undergo mastectomy with implant-based reconstruction (in spite of peri-operative and post-operative antibiotics)

- 5.8-28% of patients develop implant infection^{1,2}
- Antibiotic use in the post-operative period is not well-studied or supported by data

Infections in the breast cancer population can have serious consequences:

- Delay definitive reconstruction → reconstructive failure³
- Delay cancer-related treatments including chemotherapy and radiation⁴
- Use of broad-spectrum antibiotics can lead to antibiotic resistance patterns

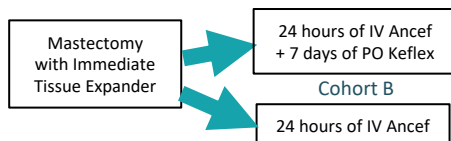
Objective

We aimed to determine which antibiotic regimen led to more favorable outcomes in cases of mastectomy with immediate tissue expander placement: 24 hours vs. 7 days

Methods

We designed a two-armed, randomized controlled trial in patients undergoing mastectomy with immediate tissue expander reconstruction, ultimately aiming to enroll 100 patients per cohort

RANDOMIZATION
Cohort A



Results

Demographic and treatment data by group

	Cohort A (7 days) 28 patients	Cohort B (24 hours) 30 patients	p-value
Age (years)	44.7 +/- 9.0	43.9 +/- 10.1	1.000
BMI (kg/m ²)	25.3 +/- 5.6	22.9 +/- 4.4	0.085
Therapeutic v prophylactic mastectomy	8 prophylactic 20 therapeutic	6 prophylactic 24 therapeutic	0.545
Reconstructive plane	12 sub-pectoral 16 pre-pectoral	7 sub-pectoral 23 pre-pectoral	0.163
Adjuvant chemotherapy	8 patients	13 patients	0.284
Adjuvant radiation	2 patients	1 patient	0.605

References

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Infectious outcomes by group

	Cohort A (7 days) 28 patients, 46 breasts	Cohort B (24 hours) 30 patients, 52 breasts	p-value
Any infection	13 breasts (28.2%)	9 breasts (17.3%)	0.230
Infection requiring IV antibiotics	8 breasts (17.4%)	6 breasts (11.5%)	0.565
Infection requiring explant	6 breasts (13.0%)	3 breasts (5.8%)	0.298
Mean time to tissue expander removal (days)	75 +/-66 days	68 +/-55 days	0.880
Duration of follow-up (months)	20.9 +/- 11.0 months	18.2 +/- 12.4 months	0.391

Conclusions

- We found no significant differences in infection rates between groups of patients who received 24 hours compared to seven days of prophylactic antibiotics
- Since longer antibiotics are NOT noted to be protective, we should re-evaluate the routine use of prolonged prophylactic antibiotics courses