C35

Lucy Wei B.S. Advisor(s): David Otterburn M.D.

Co-author(s): -

Topical Tacrolimus: A Game-Changer in Full Thickness Necrosis Prevention In Alloplastic Breast Reconstruction

Purpose: Skin necrosis is a common complication following mastectomy, with reported incidence rates as high as 30%. Previous studies in rodent models demonstrated that topical tacrolimus significantly reduces skin flap necrosis and outperforms other studied topicals, but its use in human ischemic skin has yet to be described. This study aims to introduce topical tacrolimus as an effective adjunctive treatment for skin necrosis after immediate breast reconstruction.
Methods: A retrospective review was conducted on patients after mastectomy with immediate tissue expander breast reconstruction between October 2023 and December 2024. Patients deemed at risk for skin ischemia by either gross observation or abnormal indocyanine green angiography findings, were prescribed topical tacrolimus and instructed to apply twice a day. Patient demographics, medication timelines, surgical details, complications, and clinical outcomes were analyzed using descriptive statistics.
Results: 15 patients (n= 20 breasts) were analyzed. The mean age and BMI were 55.20± 3.31 and 22.53±0.71 respectively. The average length of tacrolimus usage was 18.85±2.63 days. Of all at-risk breasts, only one breast developed full-thickness necrosis, resulting in a 95% salvage rate. Necrosis was completely prevented in ten breasts (50.0%). All patients were able to continue their scheduled breast cancer treatment and reconstruction without any significant delays. No adverse effects related to topical tacrolimus use were reported by all patients.
Conclusion: This study demonstrates that topical tacrolimus is a safe and effective strategy for preventing full-thickness necrosis in threatened mastectomy flaps. These promising results should be followed up with a randomized control trial to determine the efficacy of topical tacrolimus in treatment for mastectomy flap necrosis.