

while 45.5% had a large breast size (mean; >1151 cm³). RNI was performed in 67 patients (66.3%). In the univariate analysis, only the breast volume ($P < 0.001$) was significantly higher in cases of acute skin toxicity. No significant differences were found in acute skin toxicity between patients receiving or not receiving RNI ($P = 0.196$) or between helical tomotherapy and VMAT treatment planning techniques ($P = 0.833$). On multivariate analysis, breast volume was the only independent significant factor associated with the development of acute skin toxicity ($P = 0.001$) (Table 1).

Conclusion: The study has confirmed that hypofractionated radiotherapy is associated with better cosmetic outcomes. However, it still shows that large breast volume is a significant predictor of acute skin toxicity even for hypofractionated treatments. Additionally, to our knowledge, this is the first study comparing two contemporary planning techniques, VMAT and helical tomotherapy, in terms of acute skin toxicity in hypofractionated radiotherapy. No significant difference in toxicity was observed between these two planning techniques.

Abstract 2691 – Table 1: Multivariate analysis with logistic regression for acute skin toxicity

Variables	Odds Ratio	P value	95% CI
Chemotherapy	1.819	0.240	0.670-4.937
Hormone therapy	0.973	0.964	0.291-3.251
RNI	1.606	0.369	0.571-4.514
Planning techniques	1.482	0.402	0.590-3.720
Breast volume	0.183	0.001	0.065-0.516
Boost volume	1.270	0.630	0.480-3.358

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Analysis of Patient Reported Outcomes in the Prevention of Acute Radiation Dermatitis with Topical Therapies

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Purpose/Objective(s): Acute radiation dermatitis (ARD) is a common toxicity in breast radiotherapy (RT). There is a plethora of topical treatments that physicians prescribe, or patients use, with little consensus or data to guide recommendations. Here we attempt to review the use of preventive therapy (PT) versus reactive therapy for ARD in breast cancer patients and to determine if there is an association between the use of PT and improvement in patient reported outcomes (PROs).

Materials/Methods: Patients receiving RT (conventional or hypofractionation, with or without boost) to the breast from 1/1/2012-12/31/2020 were prospectively enrolled in a statewide quality consortium. Included patients had completed the baseline PROs form for week 1 of therapy through final week. A PT was defined as topical “aloe vera/plant gel, Eucerin, Aquaphor, lotion/cream, Calendula/my girls, or Vaseline,” used at baseline – defined as first week of radiotherapy. All other topical therapies administered after first week were defined as reactive. Patient groups were compared using chi-squared test via the data management and decision management software.

Results: 8386 patients met inclusion criteria. 34 unique topicals were reported as used by patients. 3403 patients (40%) reported use of a PT during 1st week of RT (baseline). The percentage of patients using reactive treatment increased steadily throughout the course of RT; 16% at week 2 and 39% by final week but was more frequently used by patients who had not initiated PT at baseline (35.9% vs. 30.7% $P < 0.0001$). Patients who used a PT at baseline were less likely to report subsequent skin peeling (23% vs 15.5%, $P < 0.001$) or redness in the treated breast (55.8% vs 40.5%). However, these patients were more likely to report hurting (20.4% vs 17.8%, $P = 0.0084$), stinging (22% vs 20%, $P = 0.0481$), itching (24.1% vs 21%, $P = 0.0023$), and pain (27.8% vs 23.5%, $P < 0.0001$), than patients not initiated on a topical PT at start of treatment. The association of redness varied across race with white patients (59.6% vs 42.2%, $P < 0.001$) and, “other” patients (58.5% vs 41.3% $P = 0.0153$) reporting significantly less redness with the use of PT. No significant association was found for black patients (33.9% vs 32.6%).

Conclusion: The use of topical PT and RT for ARD in breast RT is common and variable. PT reduced breast redness for white and “other” patients but not black patients, highlighting the limitations of assessing the full extent of skin toxicities in women of color. Further, white patients may be more aggressively treated with reactive therapies because erythema is more apparent. Patients of any race who use a PT are less likely to report skin peeling. Discordantly, use of a PT was associated with statistically more, though small absolute difference, in pain. This may be due to separate processes mediating desquamation versus breast pain, with topical treatment only impacting the former.

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Contemporary Trends in Radiation Protocols for Breast Cancer Treatment: A Population-Based Analysis

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Purpose/Objective(s): During the COVID-19 pandemic, the five daily fraction FAST-Forward radiation protocol was adopted in Ontario for treating early-stage breast cancer (BC), which also minimized healthcare visits. However, there has been limited data about how this regimen was