Prior Radiotherapy Does Not Affect Abdominal Wall Reconstruction Outcomes: A Propensity Score Analysis

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INTRODUCTION: Radiotherapy (XRT) adversely affects wound healing, but data are limited on how prior XRT may affect abdominal wall reconstruction (AWR) outcomes. We hypothesized that prior abdominal wall XRT is associated with worse outcomes following AWR for hernia or oncologic resection.

MATERIALS AND METHODS: This was a retrospective study that included consecutive patients who underwent complex AWR using acellular dermal matrix (ADM) at a single center. We performed propensity score analysis for risk adjustment in multivariable analysis and for one-to-one matching.

RESULTS: We included 511 patients who underwent AWR with ADM for repair of a complex hernia and/or oncologic resection from 2005 to 2015. One hundred thirty (25%) patients underwent XRT prior to AWR and 381 (75%) patients did not undergo XRT. With a mean follow-up of 30.0 months, a greater percentage of XRT AWR patients underwent flap reconstruction (14.6% vs 5.0%, $p<0.001$), whereas fewer underwent component separation (61.5% vs 71.4%, $p=0.036$) compared with non-XRT AWR patients. Both groups had similar rates of hernia recurrence (8.5% vs 9.4%) and surgical site occurrence (25.4% vs 23.4%).

CONCLUSION: Contrary to our hypothesis, the only difference detected between XRT AWR and non-XRT AWR patients was a shorter time to hernia recurrence seen in the XRT AWR group. Surgeons should be aware of the higher likelihood of needing a flap for skin replacement when performing AWR in the setting of XRT.