



Abstract: Outcomes Following Breast Reconstruction in Patients with Prior Mantle Radiation for Treatment of Hodgkin's Lymphoma

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reconstructive failure compared to PMRT applied to permanent silicone implants (20% vs. 13.4%, RR = 2.33, $p = 0.0083$, 95% CI 1.24 – 4.35), but lower rates of capsular contracture (24.5% vs. 49.4%, RR = 0.53, $p = 0.083$, 95% CI 0.26 – 1.09).

CONCLUSION: Regardless of timing, PMRT applied to implant-based breast reconstruction was associated with high risk of reconstructive failure and capsular contracture. Surgeons should consider alternative strategies, such as autologous tissue reconstructions, in patients requiring PMRT.

Outcomes Following Breast Reconstruction in Patients with Prior Mantle Radiation for Treatment of Hodgkin's Lymphoma

Presenter: Yoon S. Chun, MD

Co-Authors: Brian B. Freniere, MD; Gretchen Gulbrandsen, BA; Laura S. Dominici, MD; Emily Lafleur, PA-C; Daniel Sturgeon, MS

Affiliation: Harvard Medical School, Brigham and Women's Hospital/Faulkner Hospital, Boston, MA

INTRODUCTION: External beam radiation in the mantle field has been a mainstay of therapy for Hodgkin's lymphoma for several decades. While the incidence of breast cancer in patients treated with mantle radiation is known to be elevated and mastectomy is often indicated, little has been reported regarding the outcomes of breast reconstruction in this high-risk group. The current study presents the largest series of immediate breast reconstruction in this population and aims to evaluate reconstruction outcomes and examine differences between implant-based and autologous reconstructions.

METHODS: A retrospective review of records from a 10-year period at two institutions was performed. Patients with prior mantle radiation for Hodgkin's lymphoma therapy who subsequently underwent mastectomy with immediate reconstruction were identified and included for analysis. Patient demographics, clinical characteristics, and outcomes including complications and

operative revisions were collected. Univariate and multivariate analyses were performed to examine differences between implant-based and autologous reconstructions.

RESULTS: A total of 99 breast reconstructions were performed in 53 patients. 81 reconstructions were implant-based and 18 were autologous. Patients with autologous reconstructions were younger than implant-based reconstructions (42 ± 6.5 vs 47 ± 8.8 years, $p < 0.05$), otherwise, the groups were similar with respect to BMI, medical comorbidities, oncologic diagnosis, and therapy. The time between mantle radiation and reconstruction was similar for implant-based and autologous groups (23.4 ± 9 vs 21.3 ± 6.1 years, $p = 0.6$). The overall breast complication rate was not statistically different between the implant-based and autologous groups (35% vs 16%, $p = 0.16$). Three implant-based reconstructions (3.7%) failed requiring explantation, and there were no complete flap losses in the autologous group. Autologous reconstruction group was associated with over 5-fold higher rate of unplanned revisions compared to the implant-based reconstruction group (OR: 5.29, 95% CI: 1.24–22.51, $p = 0.025$).

CONCLUSION: Immediate breast reconstruction in patients with prior mantle radiation can be achieved safely with an acceptable complication profile utilizing both implant-based and autologous techniques. Autologous breast reconstruction is associated with higher rate of revisions compared to implant-based breast reconstruction.

Radiation of the Breast: Optimization of Treatment Planning with a Gas-Filled Tissue Expander

Presenter: Yvonne Zissiadis, MBBS, FRANZCR;

Affiliation: Genesis Cancer Care, Wembley

INTRODUCTION: Radiation of the breast with a saline tissue expander in situ has been managed successfully for many years despite the presence of an embedded metallic injection port. A new breast tissue expander has been introduced that is filled with carbon dioxide released via remote control from a stainless-steel reservoir located within