Oncoplastic Mammoplasty As A Strategy For Reducing Reconstructive Complications Associated With Post-Mastectomy Radiation Therapy

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BACKGROUND
Given the high complication rates in patients who require radiation therapy (XRT) after mastectomy and immediate reconstruction, and the low local recurrence rates following neoadjuvant chemotherapy and breast conservation therapy, we sought to determine if using neoadjuvant chemotherapy and oncoplastic mammoplasty as an alternative to mastectomy and immediate reconstruction is an effective strategy for reducing complication rates in the setting of XRT.

METHODS
A prospectively-maintained database was queried for patients who received neoadjuvant chemotherapy and XRT between 2001 and 2010 and underwent either oncoplastic mammoplasty or mastectomy with immediate reconstruction. Rates of post-operative complications between groups were compared using Fisher’s exact test.

RESULTS
Outcomes from 37 patients who underwent oncoplastic mammoplasty were compared to 64 patients who underwent mastectomy with immediate reconstruction. Mean follow-up was 33 months (range 4 – 116 months). Rates of post-operative complications, including unplanned operative intervention for a reconstructive complication (2.7% vs. 37.5%, p < 0.001), skin flap necrosis (10.8% vs. 29.7%, p = 0.05), and infection (16.2% vs. 35.9, p = 0.04) were significantly higher in the mastectomy group. Overall, 45.3% of patients who underwent mastectomy developed at least one breast complication, compared to 18.9% of patients who underwent oncoplastic mammoplasty (p = 0.01).

CONCLUSIONS
If XRT is indicated to reduce local recurrence risk even after mastectomy, trying to achieve breast conservation by using neoadjuvant therapy and oncoplastic surgery can optimize surgical outcomes. Breast conservation with oncoplastic reconstruction does not compromise oncologic outcome, but significantly reduces complications compared to post-mastectomy reconstruction followed by XRT.