Could the results of the SWOG trial have shown an even greater advantage for the combination if the high-dose regimen of fulvestrant had been used? Would the FACT trial have shown an advantage for the combination arm had the higher dose of fulvestrant been used? It does seem reasonable to consider the regimen described by Mehta and colleagues for postmenopausal women presenting with metastatic breast cancer who have had no prior exposure to endocrine therapy for their ER-positive metastatic breast cancer. However, for all other women, depending on the first hormonal therapy they have received in the adjuvant or metastatic setting, the use of single-agent therapy with either an aromatase inhibitor or high-dose fulvestrant remains the standard of care.

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References

COSMETIC AND RECONSTRUCTIVE SURGERY

Current Status of Implant-Based Breast Reconstruction in Patients Receiving Postmastectomy Radiation Therapy
Kronowitz SJ (Univ of Texas MD Anderson Cancer Ctr, Houston)
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Background.—Increasing numbers of patients with breast cancer are being treated with postmastectomy radiation therapy. The author reviewed the literature to determine the clinical impact of this increasing use of postmastectomy radiation therapy in patients with breast cancer who desire implant-based breast reconstruction.

Methods.—The author searched the MEDLINE database for articles on breast reconstruction and radiation therapy published between January of 2008 and June of 2011 and reviewed the abstracts of those articles to identify articles with information about the impact of irradiation on implant-based breast reconstruction. This subgroup of articles was reviewed in detail.

Results.—Two hundred eighty-five articles were identified. Nineteen articles were reviewed in detail. Eight articles provided level III evidence; one provided level I or II evidence from high-quality multicenter or single-center randomized controlled trials or prospective cohort studies. Two articles provided level IV evidence from case series and were included in the review because they offered a novel approach or perspective. The most recent studies find a significant need for unplanned or major corrective surgery in irradiated breasts reconstructed with implants. Although breast implant reconstruction in irradiated breasts is associated with high rates of complications, only a minority of patients require conversion to an autologous tissue flap.

Conclusion.—Although the majority of patients who undergo implant-based reconstruction and irradiation ultimately keep the implant reconstruction, patient surveys show that irradiation has a significantly negative effect on patient satisfaction.

This article by Kronowitz is an overview of the literature published on this topic between January 2008 and June 2011. The author performed a MEDLINE search of the terms “radiation therapy” and “breast reconstruction” and selected 19 articles that covered a variety of topics regarding the sequencing and integration of
implant reconstruction with radiation therapy (RT).

This is a comprehensive review of RT and breast reconstruction. Although the article is well written and well researched, it is as yet difficult to draw any definitive conclusions on the myriad issues surrounding this controversial topic. There are several reasons for this problem. For example, many patient reports are heterogeneous, involving different surgical and RT techniques; whereas in some reports, patients underwent RT to the tissue expander, in others, patients received RT to the permanent implant. In other cases, RT was delivered both before and after reconstruction. In addition, patients who underwent RT before mastectomy as part of breast-conserving therapy were also included. Both patients who underwent 1-stage and 2-stage implant reconstructions were included, as were those who underwent autologous flap reconstructions in combination with implants—a population that one may argue should be considered distinct from patients with pure implant reconstructions. Given the heterogeneity of the patient populations and treatments in the studies included in the review, it is impossible to make any definitive conclusions about the effectiveness of 1 regimen vs another. In addition, it is important to remember that the majority of articles included in this review (11/19; 58%) were level III or IV evidence. These studies were also limited by their inclusion of small groups of patients with irradiated permanent implants, short median follow-ups, and variable defined endpoints and definitions of “implant failure.”

Since the publication of this review, several high-quality articles on reconstruction have been published, including a prospective multicenter cohort study from France of 141 patients who underwent mastectomy and immediate tissue expander placement and expansion followed by RT to the expander. After some time period that was not specified in the article, exchange for a permanent implant was performed. Radiation was fairly uniform in terms of dose, consistent lack of bolus use or chest wall boost, and comprehensive coverage of the regional nodal basins. The majority (78%) of patients received chemotherapy (18% neoadjuvant and 60% adjuvant). At a median follow-up of 37 months, a 22.7% implant failure rate was reported. Smoking, larger tumors, and positive axillary lymph nodes correlated with implant failure.

Following this study, a large retrospective series of 151 patients treated at Memorial Sloan-Kettering Cancer Center was published. This study documented long-term outcomes after postmastectomy RT to the permanent implant. Although retrospective in design, the study had several strengths, including the uniform treatment and timing of treatment delivered to patients, all of whom received chemotherapy and underwent irradiation of the permanent implant at a median of 2 months after the completion of chemotherapy. The median age in the group was 45 years, and 75% of patients had stage III disease; 90% of patients had skin-sparing mastectomies. A median of 50 Gy to the chest wall and nodes, not including the internal mammary lymph nodes, was delivered using 3-dimensional conformal techniques with tangents matched to a supraclavicular field. Daily bolus was used, without a chest wall boost. With this approach, the 7-year locoregional control rate was 100%, indicating that postmastectomy RT in the setting of immediate reconstruction did not compromise oncologic outcomes. Implant failure was defined as removal of the implant or replacement with another reconstruction. The 7-year implant failure rate was 29%, which was considered acceptable and similar to the crude 22.5% incidence of implant failure reported in the French trial.

More recently, an Italian study compared the outcomes of 98 patients who received RT to the tissue expander and those of 109 patients who received RT to the permanent implant. The control group consisted of patients who did not undergo reconstruction at all. The patients with irradiated expanders had higher complication rates than did those with irradiated permanent implants. The implant failure rate was 40% in the irradiated expander group and 6% in the permanent implant group. The grade 3 and 4 capsular contracture rate was significantly higher for the irradiated groups than for the control group but similar for both the irradiated expander and implant groups. However, the incidence of grade 4 capsular contracture was highest in the group with irradiated tissue expanders.

Patients’ opinions of their reconstructions were also evaluated. Again, the highest prevalence of a “good” opinion was in the control group, which did not receive RT, but among the irradiated group, 52% of patients who received RT to the permanent implant and 46% of patients who received RT to the tissue expander rated their result as good. These results led the authors to conclude that patients with irradiated expanders had a poorer outcome than did the patients with irradiated implants.

The aforementioned 3 studies illustrate the following important points: 1) There are multiple ways to integrate RT and breast reconstruction. 2) The most critical element in any successful approach is consistency. 3) Multidisciplinary coordination between the plastic surgeon and the medical and radiation oncologist is essential for achieving that consistency. Patients who may desire implant reconstruction should meet...
Integration of patient-reported outcome measures with key clinical outcomes after immediate latissimus dorsi breast reconstruction and adjuvant treatment

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Background.—Clinical evidence on patient-reported outcome measures (PROMs) in breast reconstruction is lacking. The aim of this study was to evaluate PROMs in implant-assisted latissimus dorsi (LDI) or tissue-only autologous latissimus dorsi (ALD) flap reconstruction in relation to complications and adjuvant treatments.

Methods.—This was a prospective cohort study involving six UK centres. Eligible patients had primary early-stage breast cancer. The European Organization for Research and Treatment of Cancer quality-of-life questionnaire (QLQ)-C30 and QLQ-BR23, Functional Assessment of Cancer Therapy—Breast Cancer scale (FACT-B), Body Image Scale, and Hospital Anxiety and Depression Scale were completed before operation and at 3, 6 and 12 months after surgery.

Results.—A total of 182 patients (82 LDI and 100 ALD) were recruited between 2007 and 2010 with symptomatic (59·9 per cent) or screen-detected (39·6 per cent) cancers. Some 64·3 per cent had lymph node-negative disease; 30 per cent of the LDI group had radiotherapy, compared with 53·0 per cent in the ALD group (p = 0·004). Early complications up to 3 months after surgery were reported in 66 and 51·0 per cent of patients in the LDI and ALD groups respectively (p = 0·062) and long-term complications (4–12 months) in 48 and 45·0 per cent (p = 0·845). Role functioning and pain (p = 0·002 for both) were adversely affected in the ALD group compared with results in the LDI group, with no significant effects of radiotherapy on any health-related quality of life (HRQL). Chemotherapy and early complications adversely affected HRQL, which improved between 3 and 12 months after surgery (p < 0·010 for all).

Conclusion.—There is evidence of similar HRQL between types of latissimus dorsi breast reconstruction for up to a year after surgery. There appear to be no overarching effects for radiotherapy after mastectomy on the specific HRQL domains studied in the short term. The identification of variables that affect HRQL is important, including their integration into the analysis of PROMs.

This interesting U.K. multi-institutional prospective cohort study of primary early-stage breast cancer dealing with the assessment of 2 specific aspects of immediate mastectomy reconstruction, namely using implants in combination with the LDI flap or the ALD flap, underscores the unique popularity and widespread availability of these 2 approaches in the U.K. in contradistinction to many other Western countries in which the use of the LDI flap is typically secondary. This popularity may reflect a particular focus of the U.K. medical system on the advantage of a comparatively

References
