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Polyurethane Implants in 2-Stage Breast Reconstruction: 9-Year Clinical Experience

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Abstract

BACKGROUND	Capsular contracture (CC) is a major complication of breast surgery with smooth and textured implants. Polyurethane (PU) foam-coated breast implants were developed to decrease the incidence of CC.
OBJECTIVES	The authors determined the incidence of CC following 2-stage breast reconstruction using PU foam-covered implants, with and without radiation therapy.
METHODS	The records of 92 patients who received 115 PU implants were retrospectively reviewed. The rates of CC over time were compared for irradiated and nonirradiated groups with a Kaplan-Meier analysis and log-rank test. CC rates also were analyzed with respect to age.
RESULTS	The median follow-up time for patients was 103.3 months. Nine patients experienced unilateral Baker grade III or IV fibrous CC, including 6 patients from the irradiated group and 3 patients from the nonirradiated group. The overall cumulative incidence of CC at 9 years was 8.1%. In the irradiated and nonirradiated groups, the 9-year cumulative incidence was 10.7% and 5.5%, respectively. CC occurred within 3 years in the irradiated group and within 7 years in the nonirradiated group. The incidence of CC appeared to be higher among younger patients.
CONCLUSIONS	Radiation therapy increases the risk of high-grade CC with textured or smooth implants. PU implants are associated with a much lower cumulative incidence of CC following 2-stage breast reconstruction, even when radiotherapy is performed.
LEVEL OF EVIDENCE	3 Therapeutic