PP-10

기존 유방 확대술 시행 환자에서 유방보존수술과 방사선치료 후 피막구축 발생에 대한 다학제적 접근

(Breast-Conserving Surgery with Radiotherapy for Patients with Prior Augmentation: A Multidisciplinary Study on Capsular Contracture)

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Purpose: Breast augmentation using implants is common, and breast cancer can occur in women with augmented breasts. Historically, total mastectomy was often recommended because of concerns regarding margin positivity and cosmetic failure. With advances in diagnostic techniques and screening programs, breast-conserving surgery (BCS) combined with radiotherapy has become a viable alternative. However, BCS with radiotherapy is still less frequently performed in patients with prior breast augmentation, due to concerns about capsular contracture.

Methods: This retrospective single-center study included patients with prior breast augmentation who underwent BCS followed by radiotherapy between January 2018 and June 2024. Nineteen patients with a minimum follow-up of six months were analyzed. BCS was performed by a single breast surgeon, and immediate reconstruction with glandular reshaping was performed by a single plastic surgeon. Postoperative radiotherapy was administered by two radiation oncologists. Capsular contracture was evaluated using the Baker classification, and radiotherapy-related factors were analyzed.

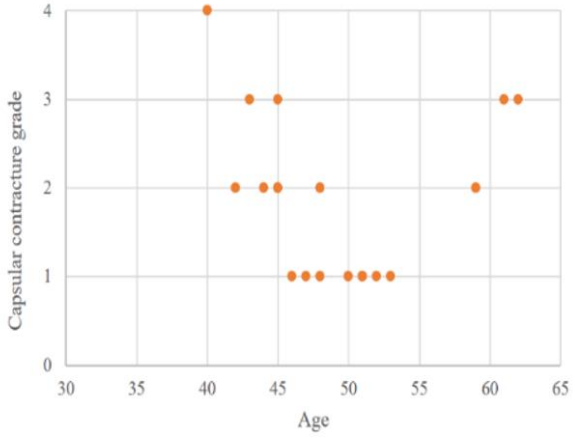
Results: Capsular contracture of Baker grade III or higher occurred in five patients (26.3%). Age, body mass index, tumor location, and reconstruction-related factors were not significantly associated with capsular contracture. The mean total radiotherapy dose was significantly higher in patients who developed capsular contracture than in those who did not (Table 1). Scatterplot analysis demonstrated a positive trend between increasing radiotherapy dose and capsular contracture severity (Figure 1).

Conclusion: In patients with prior breast augmentation, BCS followed by radiotherapy can achieve acceptable outcomes. Although capsular contracture remains a concern, careful consideration of radiotherapy dose through multidisciplinary discussion may help optimize outcomes in selected previously augmented patients.

	Capsular Contracture		Total	P-value
	Yes (N, %) 5 (26.3%)	No (N, %) 14 (73.7%)		
Age (Mean, SD) (Range)	50.2 (10.47) (40-62)	48.64 (4.41) (42-59)	49.05 (6.24) (40-62)	0.885
BMI (Mean, SD) (Range)	22.2 (2.42) (19.25-25.55)	21.29 (1.92) (18.09-25.46)	21.53 (2.03) (18.09-25.55)	0.211
Tumor Location				
ADM Usage (N, %)	3 (60%)	12 (85.7%)	15 (78.9%)	5.51
RT dose (Mean, SD) (Range)	56.54 (3.76) (52.56–60)	55.95 (2.32) (52.56–57.56)	56.11 (2.67) (52.56-60)	0.027
Single RT dose (Mean, SD) (Range)	2.36 (0.33) (2-2.6)	2.6 (0) (2.6)	2.54 (0.19) (2-2.6)	0.239
Boost RT dose (Mean, SD) (Range)	11 (2.24) (10-15)	13.39 (2.32) (10-15)	12.76 (2.49) (10-15)	0.167

SD : Standard Deviation, RT : Radiotherapy
Capsular contracture refers to Baker grade 3 or 4.

Table 1. Demographic and treatment-related factors influencing capsular contracture, comparing patients who developed capsular contracture (Baker grade III or IV) with those who did not. No significant differences were observed between the two groups in age, body mass index (BMI), tumor location, acellular dermal matrix (ADM) use, single RT dose, or boost RT dose. However, the RT dose was significantly higher in the capsular contracture group.



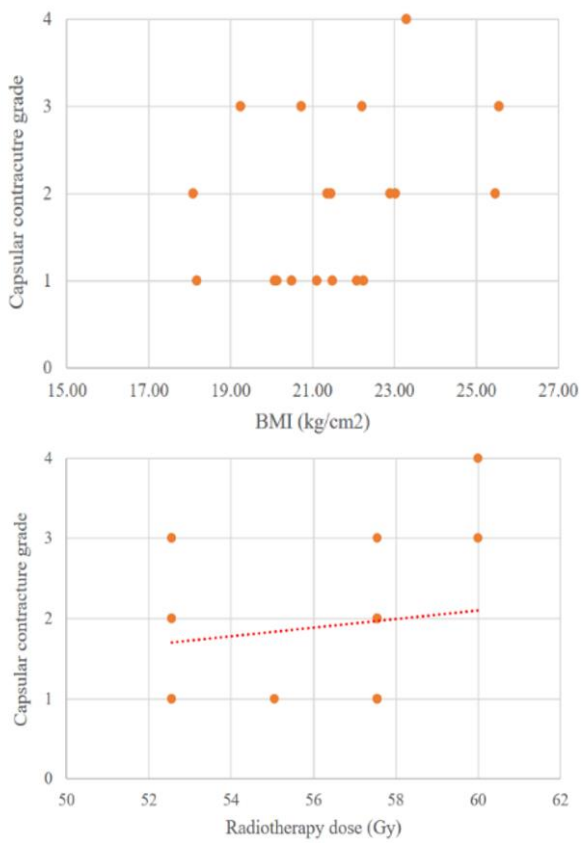


Figure 1. Scatterplots illustrating the relationships between age, body mass index (BMI), and radiotherapy (RT) dose with capsular contracture grades. Age and BMI showed no significant correlation with capsular contracture grades. In contrast, a positive trend was observed between increasing RT dose and higher capsular contracture grades.