

Mammography findings following electron intraoperative radiotherapy or external radiotherapy for breast cancer treatment.

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Abstract

Radiotherapy following breast cancer conserving surgery decreases the risks of local recurrence. Because 85% of breast cancers relapse in or around the surgical bed there has been some debate on the need for irradiating the whole breast. Electron intraoperative radiotherapy (ELIOT) has been used as a viable alternative for conventional external radiotherapy (RT). While the former requires a single dose of 21 Gy in the tumoral bed, the latter requires 5–6 weeks of irradiation with a total dose of 50 Gy and a boost of 10 Gy that irradiates the surgical bed. Herein, we investigated whether any significant differences exist between the mammography findings obtained from patients submitted to one of the two techniques. Two groups of 30 patients each were included in this study. All patients had mammographies taken at 12 and 24 months after finishing treatment. The mammography findings evaluated were: cutaneous thickening (>2 mm), architectural distortion secondary to fibrosis, edema, calcifications (both benign and malignant), and fat



necrosis. For all variables studied, there was no statistical difference between the two groups. This indicates that the mammography findings obtained in either 12- or 24-month follow-up periods after breast cancer conserving surgery are similar, regardless of which of the two radiotherapy techniques (ELIOT or RT) is employed as a treatment for breast cancer.

Keywords: Breast cancer; Breast conserving surgery; Mammography; ELIOT; RT; Radiotherapy.