

Meeting abstract

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Partial breast irradiation with interstitial high dose-rate brachytherapy in elderly patients: results of a phase II prospective study

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from XXI Annual Meeting of The Italian Society of Geriatric Surgery
Terni, Italy. 4–6 December 2008

Published: 1 April 2009

BMC Geriatrics 2009, 9(Suppl 1):A6 doi:10.1186/1471-2318-9-S1-A6

This abstract is available from: <http://www.biomedcentral.com/1471-2318/9/S1/A6>

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Aims

To investigate the efficacy, toxicity and cosmetic results of partial breast irradiation (PBI) administered with high-dose-rate brachytherapy (BRT-HDR) in elderly patients (≥ 65 years) with stage I–II breast cancer.

Materials and methods

Between August 2003 and July 2008, 50 women (median age 65 years; range 65–84; 45 with infiltrating ductal, 1 infiltrating tubular, 1 infiltrating papillary and 3 DCIS) were enrolled in a phase II prospective study. Treatment schedule was 4 Gy twice a day for a total dose of 32 Gy, with a minimum interval of 6 hours between the two daily fraction Therapy was delivered using a microSelectron HDR ¹⁹²Ir remote afterloading system (Nucletron, The Netherlands). Catheter implantation was performed during surgery or re-excision (in patients with positive or "close" margins) in 7 cases and postoperatively, at a median of 8 weeks (range 4–12) after surgery, in 43 patients. Two patients received adjuvant chemotherapy: CMF for 6 cycles in 1, and epirubicin for 14 weekly administrations in the other one. Adjuvant hormone therapy was prescribed for 39 patients (tamoxifen in 25 and anastrozole in 14).

Results

At a median follow-up of 32 months (range 5–63), acute G1 skin toxicity occurred in 2 cases; late subcutaneous toxicity in 3 (2 G1 and 1 G2); teleangiectasia occurred in 7 patients while fat necrosis occurred in 3 cases. Cosmetic results (evaluated by radiation oncologists and patients) were good to excellent in all cases.

At the last check-up all patients were alive except one, who died of hepatic adenocarcinoma; one patient developed contra-lateral breast cancer, one patient developed kidney oncocytoma, one patient NSCLC and another one squamous cell carcinoma of the vulva.

One patient, 4 years after PBI, developed a tumour in the same breast, but in another quadrant, (pT2a N2aM0, infiltrating ductal G2 ER 40%, PgR 40%, Ki-67 10%, cERb-B2 1+) and was successfully treated with mastectomy and lymph node dissection followed by external beam radiotherapy (chest wall and supraclavicular fossa); one patient developed axillary nodal recurrence and was treated with radiotherapy alone (axillary nodes).

Conclusion

In conclusion, PBI with interstitial HDR brachytherapy is a valid option in the management of selected aged patients with early breast cancer. The technique is feasible,

reproducible and associated with very low perioperative and acute toxicity. A longer follow-up in our series will be useful to evaluate the incidence of late toxicity and local relapse.

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