

## Prevention of cutaneous damages induced by radiotherapy in breast cancer: an institutional experience

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### ABSTRACT

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**Background and aims.** A minimal part of patients treated with radiotherapy on the entire breast may present an acute, subacute or chronic cutaneous damage of the healthy tissues involved in the radiation fields. The aim of this retrospective study was to evaluate the most efficient topical hydrating treatment in the prevention of cutaneous radio-induced acute effects in breast cancer.

**Material and methods.** From February 2009 to March 2010, 100 patients affected by breast cancer have been recruited, all of the female sex and with an average age of 47 years. The following topical treatments were compared: Pure vitamin E (Vea lipogel®), Omega-3,6,9 (Quinovit®), Betaglucan, sodium hyaluronate (Neoviderm®), *Vitis vinifera* A.s-I-M.t-O.dij, (Ixoderm®), natural triglycerides-fitosterols (Xderit®). All enrolled patients were subjected to breast conservative treatment (quadrantectomy with or without homolateral axillary dissection) and without prosthesis positioning, in combination or not with hormonal treatment. Evaluation of the cutaneous acute toxicity was defined according to the RTOG scale either during radiotherapy and during follow-up (3 months after radiation treatment).

**Results.** All patients completed the radiotherapy; 62% of patients presented G0-G1 cutaneous toxicity, 28% have developed G2 cutaneous toxicity, 10% have developed G3 toxicity; no patient presented G4 toxicity. Analysis of the data revealed a correlation between the topical treatment used and the incidence of cutaneous toxicity.

**Conclusions.** Of the patients who used the cutaneous hydrating creams – betaglucan, sodium hyaluronate (Neoviderm®) and *Vitis vinifera* A.s-I-M.t-O.dij (Ixoderm®) – during the radiation treatment, 80% developed G0-G1 toxicity and 20% G2 toxicity. The patients who used the other hydrating creams tested in the study manifested not only G1-G2 toxicity but also some G3 toxicity. Chemotherapeutic treatment with taxanes and/or anthracyclines did not result in an increased breast cutaneous toxicity induced by radiotherapy. The hormone therapy given to patients undergoing radiotherapy did not result in increased breast cutaneous toxicity. Further analysis on a larger number of patients is necessary for definitive results.

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**Key words:** breast cancer, cutaneous damage, radiotherapy.

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