Conclusions. FLD is an objective tool that asses radiodermatitis. This tool may prove useful for the reduction of radiation morbidities and improvement of patient quality of life.

http://dx.doi.org/10.1016/j.rpor.2013.03.107

Radiation recall dermatitis in breast cancer patients (BCP). Observational study

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Introduction. Radiation recall dermatitis (RRD) was first described by D'Angio in 1959. Its frequency is not known, because most of the reports are case reports. The interval between the end of RT and RRD ranges from days to years. Anthracyclines, alkylating agents, antimetabolites, nucleoside analogs, taxanes, tamoxifen, simvastatin, anti-tuberculosis drugs, and exposure to ultraviolet light, have been associated.
Objective. To assess the frequency and severity of RRD in BCP.
Materials and methods. 350 consecutive BCP undergoing radiotherapy (RT) were enrolled. All patients received supportive skin treatment before, during and 4 weeks after RT. Follow-up ended 1 year after RT. Dermatitis (D) development during RT was evaluated by the RTOG/EORTC criteria. RRD was evaluated by the specific NCI grading system developed in 2000, documented in the 2.0 Common Toxicity Criteria.
Results. 253 patients presented D during RT. 75 patients had skin toxicity grade II or more. The mean dose of D appearance was 38.8 Gy (range 30–42). At 5 months, skin appearance was good in all cases. Later, 19 patients presented RRD (15 GI, and 4 GII). All these patients had received chemotherapy after RT. All cases improved rapidly with topical steroids.
Conclusions. As far as we know, this is the first observational study assessing the frequency and severity of RRD. Idiosyncratic drug hypersensitivity phenomenon is a recent hypothesis which correlates best with the present available facts. Certain drugs trigger non-immune inflammatory pathways in patients whose inflammatory response threshold has been lowered by radiation. Radiation may induce cells to secrete low levels of cytokines, such as TNF, that are responsible for an inflammatory response, and when a triggering agent is introduced, these cytokines are upregulated, causing a recall reaction. Often, the recall reaction is more severe than the original radiation reaction, which has not occurred in the patients we studied. Study continues.

http://dx.doi.org/10.1016/j.rpor.2013.03.108

Radiation-induced-cancer risk in breast cancer patients. Photon or electron boost?

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Introduction. In radiation-induced-cancer development are implicated low range radiation doses (up to 20–30 Gy) received by the healthy tissue, except for secondary sarcoma induced at higher doses.
Objective. To analyze the effects of 10–16 Gy boost given [as second cancers potential-inducer in homolateral (HL) and contralateral lung (CL) and breast (CB)], and ascertain if there is any difference if delivered by photons (PH) or electrons (E). We present the preliminary results.
Materials and methods. 5 consecutive BCP, treated with conservative intend, undergoing RT, were enrolled. Eclipse v10.0 was used for planning and DVH analysis. Statistical analysis was performed by MATLAB software. For each patient, two boost options were calculated; one by PH and another by E. DVH of each were analyzed and determined: (a) V5-20 Gy of HL and CL. (b) V5-10 Gy of CB. (c) V10-20 Gy of esophagus. Also, the mean integral dose in the treated breast (MIDB) and the mean integral dose received in the whole simulation volume (MIDWSV) were determined.
Results. Wilcoxon–Mann–Whitney test showed that the null hypothesis was true (median equal for both data samples, with a significance level of 5%) for HL, but false for MIDB and MIDWSV. Therefore, no significant differences were found in HL between both boost (PH or E), but they were found for MIDB (increased for E) and for MIDWSV (increased for PH).
Conclusions. There is a significant difference between E or PH boost regarding low doses in distant organs. No differences were found regarding lung doses. E boost possibly is more related to higher probability of homolateral induced breast sarcoma. Integral dose (linked to general cancer induction) is also higher in PH boost. This low dose distribution might be used as optimization criteria for a certain patient regarding election between E or PH boost with similar CTV coverage.

http://dx.doi.org/10.1016/j.rpor.2013.03.109