WOUNDS CAUSED BY RADIOTHERAPY

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Introduction

Ionising radiation causes damage to hereditary material in the cell nuclei of the skin; it destroys cells through proliferative cell death: the cell dies during the next cell division. No symptoms appear during the first few weeks, but they become visible on the skin as from the third week. First-degree radiodermatitis: mild erythema, itching and dry skin
Second-degree radiodermatitis: itching increases and may become a burning pain
Third-degree radiodermatitis: skin discolouration (dark or purplish red) and moist skin lesions appear
Patients who are irradiated in the head and neck region are very susceptible to skin irritation. The
irregular shape of the neck and the face is the cause of such susceptibility.

Patient, medical history

The patient suffers from a hypopharynx carcinoma. Therapy consisted of radiotherapy combined with Erbitux®. At the start of radiotherapy, the patient already presented with a skin rash (acne) on the face (radiation zone) and on the upper body as a result of taking Erbitux®.
Radiation schedule:

- Large fields: 23 x 2 Gy (x/y: 18.5 x 23 cm) R/L opposing gantry 270°/ 90°
- Boost 1: 6 x 2 Gy (x/y: 22 x 11.5 cm) R/L opposing fields gantry 250°/ 70°
- Boost 2: 6 x 2 Gy (x/y: 18 x 11.5 cm) R/L opposing fields gantry 250°/ 70°
- Boosts 1 and 2 are irradiated alternately

07/04/2008: End of the 23 fractions of the large fields
The patient presented with a severe skin reaction featuring marked redness and acne. Patient applied dexpanthenol cream 3x /day at the start of the therapy.

11/04/2008: 4 days after the end of the large fields (boost 3/12)
The skin reaction has increased. Bloody skin lesions have appeared. The pain has increased. Three of the 12 fractions of the boost fields had been administered in the meantime, albeit with different gantry angles and smaller field dimensions; these boost fields were mainly situated in the moist epidermolysis zone of the first series. Because the peak of the adverse effects (large fields) occurs after 8 to 10 days, skin damage was expected to worsen significantly. Administration of Flaminal® Hydro 1 x/day and fixation dressing was to be started, Flaminal® Hydro being removed prior to radiotherapy.

14/04/2008: 7 days after the end of the large fields (boost 5/12)
Two days after the start of Flaminal® Hydro, a significant improvement was seen, particularly in the zone outside of the boost fields, even though the peak of the adverse effects had not yet been reached.

17/04/2008: 10 days after the end of the large fields (boost 8/12)
Wound healing is clearly visible, although we would normally expect severe side effects at this stage.

21/04/2008: 14 days after the end of the large fields (boost 10/12)
Regeneration is clearly visible on the edges (outside of the boost zone).

23/04/2008: 16 days after the end of the large fields (boost 12/12)
End of therapy. We see large, confluent zones of healthy skin (outside the boost zone). Within the boost zone, epidermolysis decreased during the boost therapy, which is remarkable.


11. April 2008


14. April 2008


14. April 2008


17. April 2008


17. April 2008


21. April 2008


23. April 2008


23. April 2008

Flen Health
advanced skin healing