The Effective Management of Radiation Induced Moist Desquamation using both Flamigel® RT a Hydro-Active Colloid Gel and Flaminal® an Enzyme Alginogel®

J Goddard, Outpatient Lead Nurse & H Trudgeon, Outpatient Nurse. Genesis Care.

Introduction

Radiation dermatitis is a side effect of external beam ionising radiation. Most commonly, radiation- induced dermatitis is caused by radiotherapy for underlying malignancies. Irradiation of the skin leads to a complex pattern of direct tissue injury involving damage to cells of the epidermis and endothelial cells within the walls of blood vessels, and inflammatory cell recruitment and can be classified as acute or chronic [1].

Radiotherapy induced dermatitis is categorised from 0-4 (inclusive of 2a & 2b) as classified by the Radiotherapy Oncology Group (RTOG) grading system. To elaborate on the extent of skin damage within this system, RTOG 0 indicates no skin damage whereby RTOG 4 relates to ulceration, bleeding, or necrosis; however, the latter is rarely seen [2].

Radiation treatment doses are measured in Gray which is the total amount of radiation the patient is exposed to and can be recorded as centigray (cGY). The total dose of radiation is divided into fractions to reduce the toxic effect on healthy skin cells and is usually administered over several days or weeks [3].

This case study involves a 71-year-old female who has a medical history including mild asthma, ulcerative colitis, osteoporosis, arthritis, and an ileostomy. Radiotherapy was needed as she was diagnosed with an anal canal tumor and had an ileoanal pouch.

She was undergoing 28 fractions of radiotherapy to the pelvic area, namely the groin, vagina and anal region. This was administered over a six-week period and was given in conjunction with chemotherapy, which can exacerbate skin reactions.

The patient developed RTOG 3 radiotherapy induced dermatitis in the final third stage of her radiotherapy treatment. Confluent moist desquamation of the skin was evident, with areas of slough and associated moderate to high volumes of exudate. There was also noted oedema of the mucous membranes.

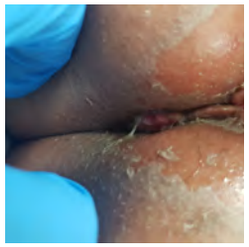
During the period of radiotherapy treatment, the patient had two courses of antibiotics for a urinary tract infection.

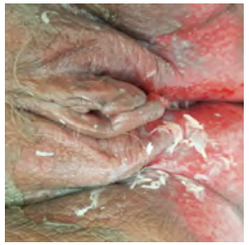
Method

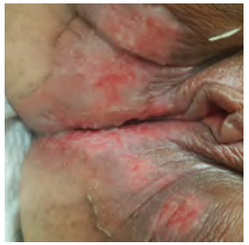
The treatment aims were to minimise further skin damage, manage exudate, facilitate debridement of devitalised tissue, and reduce the risk of infection to support wound healing.

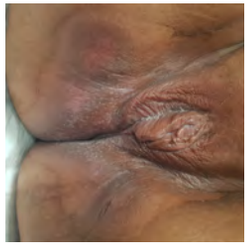
The Lead Nurse Specialist selected a Hydro-Active Colloid Gel (Flamigel® RT) from the start of the patients radiotherapy treatment, up until RTOG 2a skin reaction. This product was chosen for its proven ability to reduce the intensity of skin reactions. It provides a protective barrier and supports skin regeneration, additionally, its cooling effect is known to soothe the exposed skin. No secondary dressing was applied due to the complex area and to reduce friction. The patient was encouraged to wear loose or no underwear to maximise comfort and minimise friction.

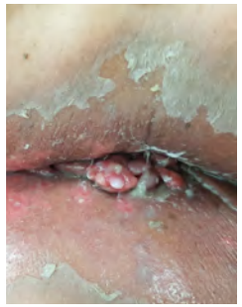
The service were fortunate to be able to offer the patient a rest post daily RT and so the nursing team could apply the products for the patient, which allowed her to lie down for 30 mins. The patient was encouraged to do this again later in day and at night, and any additional applications if needed, for example if the product was removed though urination/anal leakage.

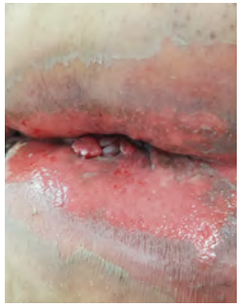

23/02/23

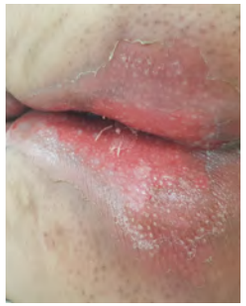

10/03/23

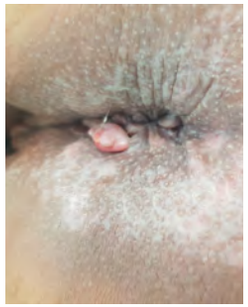

15/03/23


23/03/23


23/02/23


10/03/23


15/03/23


23/03/23

Radiotherapy induced dermatitis didn't occur until the third quarter of treatment, demonstrating that the use of Flamigel® RT prolonged the onset, and so facilitated uninterrupted therapy.

At the point of skin damage, Enzyme Alginogel® products were introduced, namely Flaminal® Forte/Hydro. These products were selected to facilitate the autolytic debridement process, as devitalised tissue delays wound healing and increases the risk of infection, they were also considered for their antimicrobial protection component and ability to support exudate management. Flaminal® Forte has a higher concentration of alginate than its Hydro sister and is suitable for moderate to high exudate levels, in comparison to that of Hydro which is recommended for low to moderate levels. A combination of the two was instigated to target the skin damage which had varying exudate management needs.

She used absorbent Tena products around the groin area due to significant rectal leakage and was encouraged to change these often to reduce friction and to keep potentially infective material away from the skin reaction..

Results

The Lead Specialist Nurse noted that the radiotherapy induced dermatitis remained infection free throughout the wound management trajectory with the use of Flaminal® Forte/Hydro and complete healing was achieved four weeks post radiotherapy treatment. This case study demonstrates the effectiveness of Flaminal® as an antimicrobial protection agent, coupled with its debridement ability and its capacity to manage varying exudate levels, whilst maintaining an optimum moist wound healing environment.

Discussion

Radiation dermatitis remains as one of the most common side effects of Radiotherapy affecting 80 – 100% of patients who are also undergoing adjuvant or curative radiotherapy. Acute skin reactions can be distressing and can lead to treatment interruptions. The importance of assessment and appropriate management, in line with best clinical evidence, increases the chance of a successful patient outcome [4].

Conclusion

This case study demonstrates that although it was identified that there had been a degree of radiotherapy induced dermatitis, the effectiveness of Flamigel® RT in delaying this process is clearly defined. The introduction of the Flaminal® range facilitated an uninterrupted wound healing continuum and so achieved the dictated treatment aims.

References
1. Ranaweera, Anoma (2012) Radiation Dermatitis. DermNet https://dermnetnz.org/topics/radiation-dermatitis (accessed 04/09/2023).
2. Harris R (2011) Summary of Interventions for Acute Radiotherapy-Induced Skin Reactions in Cancer Patients: A Clinical Guideline recommended for use by The Society and College of Radiotherapy Society of Radiographers. https://www.sor.org (accessed 04/09/2023).
3. Smith, Y (2018) Radiation Dosage. www.news-medical.net/health/Radiation-Therapy-Dosage.aspx (accessed 07/08/2023).
4. Cancerworld (2016) Radiotherapy-related skin reactions. Grandround. https://archive.cancerworld.net/e-grandround/radiotherapy-related-skin-reactions/

Flen Health
advanced skin healing