IMPROVING PATIENT OUTCOMES: A SKIN CARE AUDIT OF 20 PATIENTS UNDERGOING RADIOTHERAPY USING A HYDROACTIVE COLLOID GEL, FLAMIGEL® RT

A COMPREHESIVE SKIN CARE AUDIT OF 20 PATIENTS UNDERGOING RADIOTHERAPY TO ASSESS THE EFFECTIVENESS OF A HYDROACTIVE COLLOID GEL AT REDUCING THE ONSET AND SEVERITY OF RADIOTHERAPY INDUCED SKIN REACTIONS TO IMPROVE PATIENT QUALITY OF LIFE DURING CANCER TREATMENT

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INTRODUCTION

Over 100,000 people receive radiotherapy each year within the UK[1] of which 95% of patients will experience skin changes[2]. Skin reactions are more severe in areas such as head and neck and lower abdomen/pelvic regions[2], and factors like chemotherapy treatment can also increase the likelihood of a skin reaction if in combination with radiotherapy[3]. The most common assessment tool scale used to grade these skin reactions is the Radiation Therapy Oncology Group (RTOG) scale[2]. This categorises the severity of skin reaction from grade 0-3, RTOG 2b and above are classed as moist desquamation (MD)[4]. Most of these reactions are assessed by the nurses or radiographers involved in the treatment of the patient. Skin reactions are more difficult to identify in brown and black skin tones[5].

Products used to treat these side effects is varied across the UK. The current protocol in this trust was to advise emollients to moisturise the skin in the early stages, but after a RTOG 2a reaction then dressings would be used to manage exudate and infection risk, this was especially common in head and neck patients in this trust. A severe rection can be costly not only in consumables, but to the patient's treatment as it can cause delays, so reducing the risk of these side effects has both benefits to the patient and NHS trust.

The hydro active colloid gel Flamigel® RT (Flen Health) has been clinically proven to reduce the onset of radiotherapy induced skin reactions (RISR) if used regularly from day 1[6]. This prompted the audit, as the clinicians in the department aimed to evaluate whether integrating Flamigel® RT into their standard care protocol would reduce RISR, decrease department costs, and improve patient outcomes.

METHOD

The primary aim was to assess if regular application of the hydro active colloid gel Flamigel® RT from day 1 had an impact on the time of onset and severity of skin reaction from the base, midpoint and completion timepoints of radiotherapy. The secondary aim was to assess the patient's perception of pain levels throughout the treatment using the hydro active colloid gel and how incorporation of the gel was accepted. 20 patients were selected for this audit, all undergoing radiotherapy treatment to the head, neck, anal, cervix or vaginal area which are all areas commonly known to suffer with radiotherapy induced skin reactions.

The audit was completed by a chosen selection of 3 full time and 1 part time nurses to keep consistency. All 20 patients were given clear guidance and education at the start of treatment of how to apply Flamigel® RT and how often (manufacturer instruction is 3x per day from day 1 of treatment however the department advised 2x daily due to timing circumstances, however on the weekend advice was to increase to 3x daily due to more available time). They were also advised not to apply within 2 hours before radiotherapy session to prevent bolus and product build up and not to mix with any other products.

The RTOG scale was used to grade the severity of the skin condition for each patient at the baseline, midpoint and end review of the patient, and this was captured in an evaluation form supplied by Flen Health. This form was used for data capture as it captured relevant information including age, nutritional status, pre-existing conditions, treatment regime, RTOG measurement for baseline, midpoint and completion review and additional comments for ad hoc information that was relevant to the outcome of the audit.

RESULTS

70% of patients were aged 55+ with the remaining 30% below this age. Only 20% patients had radiotherapy alone, the rest of the cohort had chemotherapy treatment in addition, 55% with Cisplatin, 10% Capecitabine, 10% MMC & Cap and 5% MMC. At the start of treatment, 5% patients had mild weight loss, 95% had no malnourishment at all. In terms of other comorbidities or factors that affect skin reactions and healing, 15% patients were smokers, and 80% had no pre-existing conditions. Areas for radiotherapy were as follows, 65% H&N, 25% anal, 10% vagina/cervix.

No additional skin care was used in any of the patients except 1 that used Instillagel® (CliniMed) and Granugel® (ConvaTec) within anal area for pain and some patients applied Flamigel® RT more than 3x a day.

Table 1 shows all 20 patients RTOG grading at midpoint and endpoint. 1 patient had to discontinue use of Flamigel® RT by endpoint, this was the only patient to progress to RTOG 3, of which Flaminal® (Flen Health) and Polymem® (H&R Healthcare) were used. 2 others discontinued use before end of treatment (1 on last day). 85% patients did not develop moist desquamation, of those 3 patients that did (15%), 2 suffered mild MD and 1 severe MD.

The 1 patient that developed severe MD did so at 30th fraction 60 Gys out of planned 33 planned fractions of 66 Gys which is later in the treatment, so did not delay any treatment and used minimal dressings The 2 with mild MD , one developed in small areas 25th fraction out of planned 30 - 54.175 grys, and the other mild MD in groin area but fraction/Gys at MD not recorded, again only needing minimal dressings.

Patients were asked about the ability of Flamigel® RT to give pain relief and soothing sensations. 60% patients said Flamigel® RT gave them pain relief and 55% patients said it gave a soothing sensation.

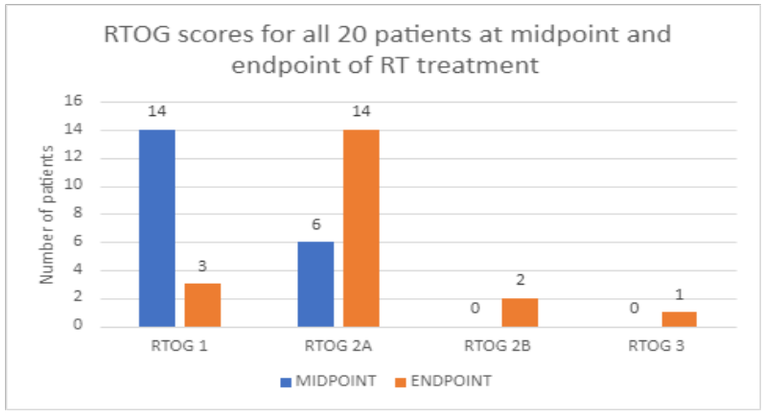
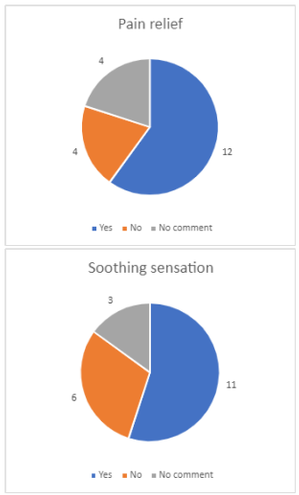


Fig 1. Graph to demonstrate total RTOG scores at midpoint and endpoint

	Location	Midpoint RTOG	Endpoint RTOG
Patient 1	head and neck	1	2a
Patient 2	head and neck	2a	2b
Patient 3	head and neck	1	2a
Patient 4	head and neck	1	2a
Patient 5	vagina	2a	3
Patient 6	head and neck	1	2a
Patient 7	head and neck	1	2a
Patient 8	head and neck	1	2a
Patient 9	head and neck	1	1
Patient 10	cervix	2a	2a
Patient 11	anus	2a	2a
Patient 12	anus	1	2a
Patient 13	anus	1	1
Patient 14	anus	1	1
Patient 15	anus	1	2b
Patient 16	head and neck	1	2a
Patient 17	head and neck	1	2a
Patient 18	head and neck	2a	2a
Patient 19	head and neck	1	2a
Patient 20	head and neck	2a	2a

Fig 2. Table to location and RTOG score at midpoint and endpoint for all 20 patients



Figs 3 & 4. Pie charts to show patient perceptions of pain relief and soothing sensation of Flamigel® RT

DISCUSSION

RISR can cause distress and discomfort to a patient undergoing radiotherapy. With only 1 patient experiencing severe MD at the very end of treatment, this is a positive outcome for this particular trust as usually in approximation, 1 in 3 patients would experience this, as opposed to 1 in 20 as this audit concluded. Those with less severe reactions, were occurring later in the treatment. There are usually a high proportion of patients that struggle with tightness and heat to the skin during treatment, however patients experienced pain relief using Flamigel® RT and found it soothing; it has been discussed within the department whether this could be why compliance increased. Patients found it completely absorbed into the skin which was a benefit as with other creams often build up which makes it difficult to remove before an RT session.

The department has found that with their previous protocol there were many expensive products being used and potentially wasted, dressing changes taking up a high proportion of nursing time, incurring unnecessary referrals which affected the patients. 4 main areas affecting the patient acceptance of this product and the impact it could have are listed below:

- **Image** – head and neck skin issues are visible to public and groin side effects can affect walking- all which can cause confidence issues. MD can lead to sticking to bedding, clothing which affects what a patient wears and how they sleep, with reduces risk of MD they have more freedom
- **Control** – patients can apply themselves and is easy to use, can reapply if in discomfort improving quality of life, improving sleep etc. in patients that are already suffering with fatigue
- **Pain** – reduction in pain and ability to soothe their skin when feeling heat reduces the need for analgesic medication. If MD presents it can be painful to put on masks needed for RT treatment, so delaying this onset improves patient experience
- **Time**- MD can lead to further referrals, delay in treatment and prolonged recovery time, which has an impact for the patient with regards to time off work, organising travel and family arrangements

CONCLUSION

This audit supports the notion that Flamige® RT prevents and delays the onset on RISR in this patient cohort. Patients found Flamigel® RT to be soothing, giving pain relief and improving quality of life during treatment. Future developments in this area could investigate further into later stage skin side effects with follow up of the patient post RT treatment and refer to late effects support teams.

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