Introduction

• A skin care working party was set up to produce evidence based practice skin care guidelines, including recommendations for the treatment and prevention of moist desquamation. Of 259 patients in 2008 revealed that 7% of patients developed moist desquamation.

• A literature search by members of the skin care working party found several studies looking at the prevention of skin reactions. These studies looked into the use of caladion no string barrier film (CNSBF) in post mastectomy treatments. The results from the study suggested that the use of CNSBF could reduce the incidence of moist desquamation in this group of patients. An in house audit was devised to assess the effectiveness of CNSBF in other patient groups.

• Numerous studies have previously looked at the treatment of moist desquamation[11]. No one treatment intervention has been proven superior to any other[9].

• However our existing clinical practice needed updating to follow best practice moist wound healing principles:

  • PolyMem dressing was chosen and assessed for its efficacy in the treatment of moist desquamation. Its appealing properties included odour reduction, non adherence, absorbency, wound cleaning as well as healing and pain relief.

Methods and Materials

• 40 patients were identified at high risk of developing friction related moist desquamation (RTDG score 2b and above) using the results gained from the previous audit (see table 1).

• These 40 patients were given CNSBF to apply during their treatment. The application started twice weekly. Once RTDG 2b was reached, the applications were increased to every other day. Their RTDG score was initially recorded weekly, then increased to twice weekly once 2b was reached. Each patient was issued with a 2ml spray bottle and given verbal instructions for use.

• 20 patients developed RTDG 2b were given PolyMem dressings applied as per the manufacturers instructions and their RTDG score recorded twice weekly. Their pain score was recorded before and after application using the following adapted pain measurement scale by McCaffrey and Beebe (1988) as supplied by Actina Healthcare Ltd.

• Of these 40 patients, 11 received PolyMem dressings. Two sizes (as per October 2009 NHS supplies catalogue prices) were ordered: 10 x 15cm roll (£5.99 per roll) and 13×13cm dressing (£21.21 per dressing). Both dressings were cut to size as required and changed daily. Total cost per patient was dependent on when the dressing was issued the maximum cost for a single patient was £5 rolls (£58.05). As the dressing is freely available in the community GPs were able to prescribe the dressing for the patients once its effectiveness was established with only 1 dressing needing to be issued by the department.

Results - CNSBF

• Of the 40 patients identified as being at high risk, 17 (42.5%) patients developed stage 2b or greater skin reactions. Of these later developed stage 3 and none of the patients in the study developed stage 4 (Graph 1).

• Stage 2b was not observed in any of the cases until week 3. Table 2 shows a summary of the weekly skin reactions observed in 2b described in different patient groups including risk factors associated with these patients. Of these patients went from 0 to 2b in the space of a week, 3 from 1 to 2b and 2 from 2a to 3.

• The Radiographers observed a marked improvement in the skin reactions generally and in particular for patients treated for anal carcinoma that used CNSBF where the 2b area tended to be limited to the perineal region. In two anal carcinoma patients their groin and genitalial reactions were mixed in the application process, stage 2b was reached at week 3 in these 3 areas, compared to week 5 for the perineal area.

• Some skin reactions did not follow the usual gradual progression through stage 1, 2a, 2b and instead went straight to 2a or 2b.

• The patients could report the sensitivity to CNSBF - a mild erythematous rash developed in the application area early on in the study which therefore all patients were tested for sensitivity outside the treatment area 24 hours before CNSBF was applied, a further 2 patients subsequently showed sensitivity reactions and were excluded from the study.

Discussion

• From the results of the study there appears to be a delay in the presentation of acute skin reactions. This is highlighted in two anal carcinoma patients where stage 2b was reached in areas missed by the CNSBF application 2 weeks before the areas that had CNSBF applied.

• 52.5% of high risk patients did not reach the expected 2b skin reactions negating the need for further interventions, overall this may reduce the cost in treating these patients skin reactions long term as well as improving overall cosmetic results and the patients experience of treatment.

Two Novel Treatments for the Prevention and Treatment of Radiation Induced Moist Desquamation

Graph 1: RTDG skin reaction scores in 40 high risk patients using CNSBF

Table 1: Patients groups identified as being at high risk of developing RTDG 2b skin reactions

<table>
<thead>
<tr>
<th>Treatment site</th>
<th>No. of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skinfolds</td>
<td>14</td>
</tr>
<tr>
<td>Anal-genital</td>
<td>2</td>
</tr>
</tbody>
</table>

PolyMem

• Of the 17 patients reaching stage 2b in the CNSBF audit, 11 were given PolyMem to use one patient was non compliant and a second patient did not use it. The remaining patients were given gentian violet to apply by the clinician before PolyMem could be used.

• A total of 20 patients were given the dressing. Table 3 shows at which RTDG stage PolyMem dressings were instigated and to which sites.

• PolyMem was generally used after the patient had received a minimum of 20Gy.

• PolyMem was found to have reduced pain scores between 1 and 4 points in 14 of the 19 patients studied. Wilcoxon Signed Ranks Test showed that this is a significant reduction (p<0.001).

Cost implications

• The cost implication of implementing PolyMem in our practice allowed us the flexibility to apply dressing as required without any financial commitment.

• The application process takes 30 seconds and due to the small size of the dressing also encouraged Radiographers to assess the skin reaction more frequently and intervene earlier with PolyMem.

• The application process takes 30 seconds and due to the small number of patients requiring application, this has no overall impact on treatment unit throughput.

• In some patients there was a build up of CNSBF when the patient was unable to adequately wash the treatment area although this did not affect to the overall results. One breast patient stopping using CNSBF as her perfuse sweating caused a build up of fluid beneath the film causing discomfort.

Table 2: RTDG weekly score

<table>
<thead>
<tr>
<th>Week Number</th>
<th>RTDG Score</th>
<th>Diagnosis</th>
<th>Risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2b</td>
<td>3x Breast, 1xthigh</td>
<td>asymptomatic,</td>
<td>none</td>
</tr>
<tr>
<td>2-4b</td>
<td>3x Breast, 2xthigh</td>
<td>asymptomatic,</td>
<td>none</td>
</tr>
<tr>
<td>4-6b</td>
<td>2x Breast, 1xthigh, 1xface</td>
<td>asymptomatic,</td>
<td>none</td>
</tr>
<tr>
<td>6-8b</td>
<td>1x Breast, 2xthigh</td>
<td>asymptomatic,</td>
<td>none</td>
</tr>
</tbody>
</table>

Table 3: RTDG score and number of patients* included within PolyMem dressing (NB some patients used the dressing in multiple sites)

<table>
<thead>
<tr>
<th>RTDG Score</th>
<th>No. of Patients</th>
</tr>
</thead>
</table>
| 0-2a | 15%
| 2b | 20%
| 2a | 60%
| 2b | 3%
| 3 | 2%

References