PO-1069
The use of creams in radiotherapy
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Purpose/Objective: At the Danish wards for radiotherapy there are different rules regarding the intervals that have to pass from the moment the patient applies moisturizer until they can be treated. This is due to the fact that it is unclear whether the cream can cause bolus effect, thereby causing the dose to move towards the skin. This would increase the damages to the patient’s skin during the radiotherapy. There is no evidence on the use of moisturizers. Consequently, we are not aware whether a bolus effect occurs. For the patients the use of creams is very pleasant which is why it would be useful for them to know whether a certain number of hours have to pass between the application and the therapy. For the staff it would be good to know whether creams cause bolus effect when it is or has been on the skin within the past hours before the therapy.

Materials and Methods: We have carried out an experimental trial testing whether creams cause bolus effect. We used two pieces of pork which we each divided into three squares in order to test our three preparations: Decubal Original Clinic Cream, Panthenol cream and Panthetanol ointment. All scans were carried out using a 64 slice Philips Brilliance Big Bore CT scanner.

On one piece of pork we tested whether it is necessary to wait up to four hours before initiating the therapy if cream has been applied to the skin. We tested this by applying 5 ml. cream to each square and subsequently carrying out a scan each hour for four hours. On the other piece of pork we applied 1 ml. cream to each square whereupon we scanned the pork. Afterwards we applied another ml. and repeated the scan, until we reached 10 ml. When all scans were completed, we calculated the skin dose for each square using the planning software Pinnacle. We calculated the skin dose of both 6 MV and 18 MV.

Results: In Table 1 we see that when we applied 1 ml cream to the pork the dose was increased between 1,35 % - 5,43 at 6 MV and 2,78 % - 4,18 % at 18 MV depending on the cream we used. For the results of 2 ml the dose increase was between 4,12 % - 9,30 % at 6 MV and 4,50 % - 10,43 % at 18 MV depending on what cream we used.

Table 1: The increase of dose in %

<table>
<thead>
<tr>
<th>Cream</th>
<th>6 MV</th>
<th>18 MV</th>
<th>Cream</th>
<th>6 MV</th>
<th>18 MV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Decubal</td>
<td>5,43 %</td>
<td>3,78 %</td>
<td>2 Panthenol</td>
<td>4,77 %</td>
<td>2,78 %</td>
</tr>
<tr>
<td>2 ml</td>
<td>9,30 %</td>
<td>10,43 %</td>
<td>Panthenol</td>
<td>1,35 %</td>
<td>4,18 %</td>
</tr>
<tr>
<td></td>
<td>6 MV</td>
<td>18 MV</td>
<td>Panthetanol</td>
<td>4,12 %</td>
<td>8,23 %</td>
</tr>
<tr>
<td></td>
<td>18 MV</td>
<td>18 MV</td>
<td></td>
<td>4,50 %</td>
<td></td>
</tr>
</tbody>
</table>

For the time experiment we made figure 1 to show the results. Time0 is when the preparations were first applied. Time1 is the dose calculated after 1 hour. By 4 hours we can see that it is only Decubal cream (blue line) that gives a lower dose than at Time0 both at 6 MV and at 18 MV but it still gives a bolus effect.

Conclusions: According to our results of the ml. measurements we can conclude: Panthenol ointment is the preparation which causes the smallest bolus effect. According to our results of the time measurements we can conclude: After four hours all the preparations in question still cause bolus effect. Because the bolus effect occurs even by very small quantities of cream and as it does not disappear within four hours, the patients should postpone the application until the therapy is over, whereby the additional bolus effect can be completely avoided.

PO-1070
The effect of gender differences on radiation induced acute lung toxicity by using XRCC1, XRCC3 and HHR2L gene panel
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Purpose/Objective: The mechanism of lung damage caused by ionizing radiation is not well known. In some studies, it is claimed that oxidative stress and cytokine activities might cause the damage. XRCC1, XRCC3 and HHR2L genes are required for repairing single or double strand chain breaks of DNA via different pathways. We would like to present results of our ongoing TUBAP 2012/190 study which has been started in November 2012.