A New Innovative way to Do Dressing and Splinting of “Skin Grafted Degloved Penis”

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Abstract:

Introduction; Degloving injury of penis is very common in areas of southern Punjab. Main reasons behind these injuries are road traffic accidents, accidents of agricultural machine belts, burns or corrosive injuries. Its cure comprises a good surgical management and post-surgical dressing.

Objective; There are various methods of post-surgical dressing available but we are looking for a technique which is cheap and easily available with no risk of complications. One such method is ‘foam dressing’ that we have found very useful.

Methods; We have introduced a Moltyfoam dressing in our unit. Its contents include ½ inch thickness autoclaved moltyfoam, chlorhexidine impregnated gauze and surgical tape. We applied this dressing on 12 patients and compared it with other penile dressing techniques.

Conclusion; The results of this technique were encouraging. We have not come across any major postoperative complication like total graft loss. So we can conclude that this technique was easy to apply with minimal risk of complications.

Key words: Foam Dressing Degloved Penis

Introduction

Degloving injury of penis is very common in rural areas of south Punjab. They are mainly caused by accidents with agriculture machine belts. Other causes may involve industrial machines or pulleys or rotators, trauma by sharp or blunt object, animal bites, burn injuries and rarely violence or child abuse. The skin of the penis is very loose and elastic. This quality provides the penis with the ability to maintain both erect and flaccid states. It leaves the penis susceptible to degloving injuries. Its management is quick surgical repair of soft tissues either by grafting or primary closure and effective post-surgical dressing which is a single most important factor for the prognosis and outcomes. There are various surgical dressing techniques but they are either not easily available or they don't have satisfactory clinical outcomes. So we have devised a foam dressing which was cheap and easily available with satisfactory clinical outcomes.

Material and Methods

Injury is managed by thick partial thickness skin graft. After surgery patient is catheterized with silicon Foley's catheter and a chlorhexidine impregnated gauze is applied on wound. The moltyfoam of ½ inch thickness sterilized in autoclave prior to surgery is applied on penis circumferentially in two layers. First layer is applied by wet foam soaked in pyodine solution and second layer is applied of dry foam. Then tie over sutures applied with silk 2-0 or prolene 2-0 at base and around corona of penis. Finally tie over knots applied between threads of base.
with those of corona. A sterilized dressing pad is applied over the dry foam layer and at the end, Surgical tape applied circumferentially over dry dressing pad to hold it in place.

Results
Total twelve patients were selected. Out of these, 2 were children of less than 12 yrs of age. Mean age of patients was 36 years. Table no. 1 shows different causes due to which grafting was needed. Out of these twelve, two cases were complicated during hospital stay, 2 out of 12 patients had less than 30% graft loss which was due to infection in one patient and hematoma formation in the other. We were able to manage that wound by dressings and secondary wound healing. All others were having 100% graft take. while. Table no. 2 shows different complications that we had to face. The results received from this dressing technique were encouraging.

Table No. 1 Different causes with which patients presented with Degloved penis

<table>
<thead>
<tr>
<th>Cause</th>
<th>No. of cases (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road traffic accident</td>
<td>5</td>
<td>41.6%</td>
</tr>
<tr>
<td>Machine injury</td>
<td>5</td>
<td>41.6%</td>
</tr>
<tr>
<td>Flame burn</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td>Corrosive burn</td>
<td>1</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

Table No. 2 Complications seen during hospital stay

<table>
<thead>
<tr>
<th>Complications</th>
<th>No. of cases (n)</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematoma at graft bed</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td>Infection at recipient site</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total complicated cases</td>
<td>2</td>
<td>16.67%</td>
</tr>
</tbody>
</table>

Figure:
This patient presented with degloving injury of penile skin with agricultural machine belt.
Discussion

The wound dressing carries an essential role in penile surgery. As the skin of penis is very mobile and it should be kept static to achieve early healing of wounds. Moreover it is necessary to control post-surgical edema and hematoma formation during recovery. The dressings have to apply sufficient pressure to the graft without compromising blood circulation. Several materials have been used for these purposes like silastic foam, elastic bandage, glove finger, Coban™ roll, the tubular elastic net bandage and many others in different regions of the globe. Above mentioned methods have some advantages over one to another but despite of their advantages they are either very expensive or not easily available in our region. Tulle grass dressing was used and secured with a stitch but it would slip off. Duoderm and Tegaderm has been used but they either slip off or cause more complications in our clinical experience. This foam dressing is very effective in holding the penis fixed in its position. This method is superior to other methods because foam absorbs all blood that oozes out of wounds and chances of hematoma formation are extremely rare. Moreover no splint is required to hold penis because foam itself acts as a splint. Now this Molty foam dressing is routinely used in our unit and so far we have not come across any major complication (total graft loss). Hence postoperative care of patients is improved and it has reduced a meaningful burden of cost from poor families.

Conclusion

This technique is very easy to apply and no extraordinary expertise are required for it. People of our area possess low socioeconomic status, so this is very good for them because of its low cost. The materials used in this technique are easily available throughout the region. This dressing removal is painless and does not require any sedation.

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