MANAGEMENT OF MALIGNANT INGUINAL GROWTH BY WIDE LOCAL EXCISION WITH SKIN GRAFTING - A CASE REPORT

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ABSTRACT

Introduction: Plastic surgery is used for restoring the form of the body. Acharya Sushruta, the ancient Indian Surgeon is recognised as a father of plastic surgery. Sushruta made important contributions to the field of plastic surgery. Treatments for the plastic repair of a broken nose are, some of the oldest known reconstructive surgery techniques were being carried out in India. Skin grafting is a surgical procedure that involves removing the skin from one area of the body and moving it, or transplanting it, to a different area of the body. Skin grafting is often used to treat extensive wounding or trauma, burn, after excising skin cancer where skin loss is more. Case Presentation: A sixty years male patient had come with non-healing ulcer at rt.inguinal region since two years. There was an ugly growth with unhealthy granulation tissue with slough and everted, rolled out edges, which bled on touching. Biopsy showed metastatic malignant growth. Its primary focus was unknown. Management and Outcome: wide local excision was done. The growth was excised along with skin and underlining muscle. And to cover the raw area pedicle graft of lateral aspect of the same thigh was used. This pedicle was selected along with skin and underling tissue allowing its vascular supply remained intact. It was sutured. To cover the raw area of this donor site split skin graft was performed. Discussion: This case report proved that after excision of malignant inguinal growth, when primary closure was not possible, skin grafting showed fast wound healing without any contracture.

KEYWORDS: Plastic surgery, Skin grafting, necrotising fasciitis, skin cancers, debridement.
INTRODUCTION

Plastic surgery is used for restoring the form of the body. Acharya Sushruta, the ancient Indian Surgeon is recognised as a father of plastic surgery. Sushruta made important contributions to the field of plastic and cataract surgery. Since from very ancient times in India, mutilation of the ears and nose are very common either by injuries in wars or as a sort of punishment. Ears or nose are damaged completely or partially. It was the work of a surgeon to repair it. Many times to fabricate the damaged part flaps of live muscle from nearby area are taken, placed it on mutilated part and made it grow. Sushruta was the first surgeon who performed these fabricated surgeries. Sushruta described surgeries in detail regarding the ear (otoplasty), nose (rhinoplasty) & lips (oroplasty). Sushruta’s method of Rhinoplasty was adopted world over and popular as Indian rhinoplasty.

Skin grafting means the transplantation of skin. It is a surgical procedure that involves removing the skin from one area of the body and moving it, or transplanting it, to a different area of the body. The transplanted tissue is called a skin graft.

Skin grafting is often used to treat extensive wound, trauma, burns, and areas of extensive skin loss due to infection such as necrotising fasciitis. Specific surgeries - most commonly removal of skin cancer requires skin grafting. Skin grafts are often employed after serious injuries when some of the body's skin is damaged. Surgical removal (excision or debridement) of the damaged skin requires skin grafting. A skin graft is used permanently to replace damaged missing skin or to provide a temporary wound covering. Skin is necessary because it protects the body against Fluid loss, bacteria or virus invasion, and aids in temperature regulation. The grafting serves two purposes: reduce the course of treatment.

Types of Skin Grafts

There are two types depending on the amount of dermis included in the graft.

Partial or split-thickness skin graft (STSG)

Also known as thiersch’s graft. more common, contains a variable thickness of dermis. A thin layer is removed from a healthy part of the body (the donor site). A split-thickness skin graft (STSG) includes the epidermis and part of the dermis, its thickness depends on the donor site and the needs of the patient. In this graft apertures are made which allows it to expand up to nine times. Split-thickness grafts are frequently used as they can cover large
areas and the rate of auto rejection is low. The same site can be harvested again after six weeks. The donor site heals by re-epithelialisation from the dermis and surrounding skin.

**Full thickness skin graft**

also known as Wolfe graft, which involves pitching and cutting skin away from the donor section. A full-thickness skin graft consists of the epidermis and the entire thickness of the dermis. The donor site is either sutured closed directly or covered by a split-thickness skin graft. A full thickness skin graft is more risky, in terms of acceptation by recipient site, yet it leaves only a scar line on the donor section .For full thickness skin grafts, the donor section will often heal much more quickly than the injury and is less painful than a partial thickness skin graft. This is often performed for defects of the face and hand where contraction of the graft should be minimized.

**Composite graft**

A composite graft is a small graft containing skin and underlying cartilage or other tissue. For example, ear skin and cartilage to reconstruct nasal alar rim defects.

**Classification According To Donor**

- **Autograft**
  
The donor skin is taken from a different site on the same individual's body.

- **Isograft or Syngraft**
  
The donor and recipient individuals are genetically identical (e.g., monozygotic twins).

- **Allograft**
  
The donor and recipient are of the same species (human-human, dog-dog).

- **Xenograft or Heterograft**
  
The donor and recipient are of different species (e.g., bovine cartilage). By definition, they are temporary biologic dressings which the body will reject within days to a few weeks. They are useful in reducing the bacterial concentration of an open wound, as well as reducing fluid loss.

- **Prosthetic implants**
  
Lost tissue is replaced with synthetic materials such as metal, plastic, or ceramic.
• Cell cultured epithelial autograft (CEA)
  In this skin cells are taken from the patient, in a laboratory new skin cells grow in sheets. The
  new sheets are used as grafts, and because the original skin cells came from the patient and
  these grafts are very thin (only a few cell layers thick), the body does not reject them.

CASE STUDY REPORT
A sixty years male patient had come with non-healing ulcer at right inguinal region since two
years. There was an ugly growth with unhealthy granulation tissue with slough and everted,
rolled out edges, which bleeds on touch. Biopsy showed metastatic malignant growth. Its
primary focus did not found. So wide local excision was done and to cover the raw area
pedicle graft with split skin grafting was performed.

AIMS AND OBJECTIVES
To study Importance of Skin grafting in extensive wounding due to wide local excision of
malignant growth.

Type of study
Observational single case study without control group.

Study Centre
Ayurved & General Hospital attached to P.D.E.A.’s College of Ayurved & Research Centre,
Nigdi, Pune.

STUDY DETAILS
Age- 60 years
Gender-male
Religion-Hindu
Occupation – farmer
Diet – Vegetarian

Chief complaints
A Non healing ulcer at rt.inguinal region since two years. There was an ugly growth with
unhealthy granulation tissue with slough. Everted, rolled out edges. Which bleeds on touch.

Brief history
A Non healing ulcer at rt.inguinal region since two years. Initially the growth was small.
Gradually it was increasing in size. Initially it was painless, latter on it became painful.
Biopsy showed metastatic malignant growth. Its primary focus did not found. Patient had taken medicine and wound dressing from general practitioner but did not respond. So he came at Ayurvedic hospital for further management.

**On examination**

No other systemic disease found.

**Family History**

Not significant.

**Local examinations**

Non-healing ulcer at rt. inguinal region since two years.
Floor-unhealthy granulation tissue with slough.
Edges- everted, rolled out.
Discharge- bleeds on touch
Shape-irregular
Smell- foul smell Painful.
Tenderness- ++

**Lab Reports**

HB % - 10.8 gm.
Blood Urea-23 mg/dl
WBC -9,300 /Cu mm, Sr.Creatinine-0.81mg/dl
BSL- R. - 140 mg/dl Urine – NAD.
X-Ray chest-WNL
E.C.G.-WNL

**TREATMENT AND OUTCOME**

With the help of oncosurgeon wide local excision was done under spinal anesthesia. The growth was excised along with skin and underlining muscle. And to cover the raw area pedicle graft of lateral aspect of the same thigh was used. This pedicle was selected along with skin and underling tissue allowing its vascular supply remained intact. This pedicle was partially excised from donor area and rotated in such a manner that it covered the wound area, from which the growth was excised. It was sutured.
The lateral aspect of rt.thigh (donor area) was covered with split skin grafting. A thin layered partial thickness graft was taken from left thigh. It was splitted with multiple holes, this split skin graft was sutured to previous donor area (lateral aspect of rt. thigh). The donor area of left thigh was dressed with framycetin tulle allowing to heal by re-epithelization. Right thigh was dressed with framycetin tulle followed by plaster of Paris slab to maintain stability.

Patient had given IV antibiotic for five days. Along with oral Anti-inflammatory and antacids. The donor area of left thigh had created some degrees of pain, which was relieved by medicine. On fifth day dressing of recipient area was changed and observations noted. There was slightly discolored edges, small part was necrosed. This part was removed. Stitches are removed after 15 days. The donor site of partial thickness graft was dressed after 15 days. Which was completely healed. The slab was removed after 15 days. For malignancy patient was referred to onco-physician for chemotherapy.

**Treatment given**

Inj. Pan 40 mg 12 hourly for 5 days

Inj. Monoceft 1gm I.V. 12 hourly for 5 days

Inj. Diclofenac sodium 75 mg I.M. 8 hourly for 2 days.

Then Tab. Combiflam 1 T.D.S

Tab. Chymerol Forte 1 T.D.S.

Tab. Pan 40 mg O.D.

Tab. Cefakind 500 mg 1B.D.

(Oral Medicine given for 7 days.)

**FIGURES-Showing various stages of skin grafting**
OBSERVATIONS AND RESULT

Gradation criteria for assessment of wound

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<tr>
<td>Pain</td>
<td>No</td>
<td>Mild pain during movement, no painkiller required</td>
<td>Moderate pain at rest, painkiller required</td>
<td>Sever pain which disturbs the sleep &amp; sedatives required</td>
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<tr>
<td>Discharge</td>
<td>No</td>
<td>Mild serous discharge</td>
<td>Blood Discharge</td>
<td>Profuse sero-purulent discharge</td>
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<tr>
<td>Indurations</td>
<td>No</td>
<td>Localized</td>
<td>All over Around Wound</td>
<td>Widespread up to thigh</td>
</tr>
<tr>
<td>Discoloration</td>
<td>No</td>
<td>Purple</td>
<td>greenish</td>
<td>Black</td>
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<tr>
<td>Fever</td>
<td>up to 98.6F</td>
<td>98.7 to 100 F</td>
<td>100.1 to 101 F</td>
<td>Above 101.1F</td>
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<tr>
<td>Edges</td>
<td>normal</td>
<td>Slightly discolored</td>
<td>Partially necrosed</td>
<td>Completely necrosed</td>
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Observations of prognosis of wound as per assessment criteria.

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<th>Criteria</th>
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<th>After 2nd week</th>
<th>After 3rd week</th>
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<tr>
<td>Pain</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>0</td>
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<tr>
<td>Discharge</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indurations</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Discoloration</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Edges</td>
<td>++</td>
<td>+</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fever</td>
<td>0</td>
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RESULT
After excision of malignant growth wound healed within three weeks, without any contracture with minimal scarring. Donor area of same thigh healed in three weeks. Donor area of left thigh healed in two weeks with discoloration. Donor area created some degree of pain which was relieved by medicine.

DISCUSSION
At this case due to extensive skin loss primary wound closure was not possible. If we tried primary closure there would be great tension, the edges of wound could not come together. the raw area could get infected. Also there were chances of wound contracture, which could hamper the movements of right thigh. to avoid all these possibilities. We had taken a decision of skin grafting. As there was extensive skin loss with underlying muscle we had taken a flap of skin with underlying tissue from adjacent area, which was rotated and sutured without disturbing its blood supply. it was very well accepted by the wound it healed in three weeks without any contracture. Only suture line remained left.

As this graft was rotated some raw area was left on donor site. For which partial thickness skin graft from other thigh was taken and used to cover the wound after expanding it by splitting. This graft was also very well accepted within 15 days. The wound of left thigh healed by re-epithelisation. it was painful but managed by oral treatment.

P.O.P. slab was applied as it protected recipient area from movement so avoided displacement of graft and enhanced its acceptance.

Antibiotics helped to prevent infection. Anti-inflammatory drugs helped to reduce oedema and pain. Antacids avoided gastritis.

CONCLUSION
This case report shows that extensive skin loss requires skin grafting to promote fast healing of wound and to avoid contracture. In Skin malignancy also it helps in wound healing.

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