



Surgery

EFFECTIVENESS OF MINCED SKIN GRAFTING AS A ONE DAY PROCEDURE IN THE TREATMENT OF CHRONIC NONHEALING ULCERS

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KEYWORDS : minced skin graft, mesher, chronic ulcers.**Brief resume:**

chronic non-healing ulcers are those that don't seem to heal after three months of proper care or are still not totally healed at one year. The treatment of these ulcers continues to be difficult because they are a common cause of morbidity. In India, there are 4.5 chronic ulcers for every 1000 people (7). Skin grafts are frequently required for the treatment of chronic ulcers, and there is a readily available, quick, easy, and standardized process to lessen the pain (1). For many years, efforts have been attempted to create skin substitutes that could perform as a normal, healthy integument in the treatment of burns, surgical wounds, cutaneous ulcers, and several skin abnormalities (3). Chronic non-healing ulcers can be treated using minced skin grafting as an outpatient procedure.

The need for the study:

In order to reduce morbidity and chronic pain, many patients with nonhealing ulcers require some type of surgery. Delayed or absent healing poses a significant problem in chronic wounds. They are frequently side effects of long-term conditions such as diabetes, connective tissue diseases, vascular dysfunction, or neuropathology.

The resultant ulcers sometimes endanger the patient's life and limb in addition to posing a personal issue and a social inconvenience. (2) (3).

Rarely, a nonhealing condition may develop neoplasia that could turn malignant. (4). Restoration of an undamaged skin barrier is crucial for these reasons.

Minced skin grafting is a straightforward procedure that requires less hospital time and doesn't require general or spinal anesthesia.

Review of the literature:

It is believed that skin grafting was first used in India about 3000 years ago. Each skin-related disease, such as surgery for congenital anomalies, maxillofacial surgery, breast surgery, hand surgery, head and neck surgery, skin and soft tissue surgery, wound care, microsurgery, and burn treatment, is kept up to date by plastic surgeons. Riverdin is credited with publishing the first comprehensive description of skin grafting in humans in the early medical literature in 1869. (5) (6). (6). Later on in 1895, von Mangoldt described a technique for harvesting skin fragments from skin grafts using a scraper with a razor-like edge. (7). Following the development of the dermatome by Padgett and Hood, which was first published in 1939, the practice of skin grafting started to be widely accepted. Meek (8) and Nystrom (9) introduced a device for mincing split-thickness skin grafts in 1958 and 1959, respectively. Vandeput and associates created a more useful meshing technique. (10) in 1963. The only services that can use this kind of meshing are those with equipped operating rooms. Due to a dearth of surgical facilities and lengthy referral processes, surgeons see chronic wounds that may potentially heal more quickly with a skin graft but are instead handled conservatively. Surgeons are fast to incorporate novel concepts created by other plastic surgeons' clinical and research endeavors. It is not surprising that original solutions to perplexing healthcare problems maintain the pace of invention given the breadth of exposure this collaboration delivers.

Patients

10 patients, within the age group of 20 to 55 years with chronic ulcers following trauma, venous ulcers, diabetic ulcers etc were treated. Informed consent was obtained from all the patients.

Materials and techniques include a Mesher and a silver skin-grafting handle with a blade. The 19 cm-long silver skin-grafting handle is perfect for making minor skin transplants. A built-in screw mechanism allows the graft's breadth and thickness to be changed. For right-handed users, the graft knife is ideal. After administering a local anesthetic to the donor location, the graft was removed. Onto a little cutting, a pad is placed on the graft that was removed. To obtain graft strips that are longitudinal, the mat is placed in a mesher. To get minced little skin particles, the same mat is now placed in the mesher with a 90° rotation. These particles covered a foam dressing uniformly. . Antiseptic bandages were used to wrap traumatized wounds in order to stop infection. The multilayer compression bandage technology was also used to wrap venous ulcers. As required, dressings were replaced. The sterility was preserved. The donor location was on the front of the leg and was dressed with paraffin and a thin compression bandage. Patients were instructed to keep up a moderate level of physical activity and to elevate their transplanted legs anytime they were lying or sitting down.



A



A young male with a traumatic ulcer over the medial aspect of the arm for one month. Regular dressing of the wound with proper antibiotics was given according to pus culture reports. Once healthy granulation tissue appeared Minced skin grafting was done under local anesthesia as an OPD procedure.

Image B shows a postoperative day 5 image with epithelial islands.



Elderly female with superficial skin infection which followed with blebs and ulceration of right lower limb. She was a known diabetic under control after medications.



D

Study design: a case series of 10 cases.

Duration: one year.

Investigations: complete blood count, blood sugar levels, renal and liver function tests, wound culture, and sensitivity.

Conclusion: When using a tiny donor graft to cover extensive wound regions, minced skin grafting is advantageous. However, minced skin grafting can be used as the first line of treatment as an OPD operation in ulcers that have the ability to heal with some surgical intervention but are being handled conservatively. Covering large ulcers will also result in slower healing and decreased efficiency.

Results: 8 out of 10 patients had good outcome

Discussion: This study demonstrates a quick and consistent method of getting skin grafts, which can be applied to acute or persistent wounds to produce full healing. After the minced skin grafts are integrated, revascularization takes place. When these epithelial islands are nourished by a healthy wound environment and adequate nourishment, the transplanted skin will eventually proliferate, differentiate, and migrate. Additionally, it has been noted that autologous cultivated fibroblasts and keratinocytes expedite the healing of wounds (12,13). Additionally, the grafted skin will introduce one or more growth factors into the environment around the wound to speed up recovery.

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