

Delayed Exposed Secondary Skin Grafting

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EXPOSED delayed primary skin grafting is well documented by Calnan and Innes (1957), McGreger (1962), Jackson (1971) and Lehman and Saddawi (1975). The basis of delayed skin grafting mentioned is, that on a bed in which reparative process has already developed, the grafts heal faster than on a fresh bed (Smahel, 1971). Smahel in 1971 had shown that more rapid vascularisation of skin grafts occurred when the grafts was placed on a two days old wound in which many capillary sprouts had developed.

Several methods of storing grafts have been described in literature. However, we have found skin storage by refrigeration at 4°C to be most simple, practicable and useful procedure. Sheppard (1972) has advocated storing grafts on their beds but we have found that removal of grafts from its donor area after 48 hours an extremely painful to the patient.

We have carefully studied the results in 125 cases of delayed exposed secondary skin grafting. These were the cases of granulating raw areas following burns, road side accidents, hand injuries (who were not fit for primary grafting) and bed sores.

Technique

The cases were operated when the gra-

nulation tissue was pink with minimal discharge and no slough. All cases were operated under general anaesthesia. Sheets of split thickness skin grafts are cut with Braithwaite's knife. Multiple fenestrations are made in the graft with scalpel knife. The grafts are placed over a layer of gauze soaked in isotonic normal saline. The graft along with gauze, is rolled to form cigar which is kept in a labelled bottle and stored in refrigerator at 4°C. After scrapping of granulation tissue, the raw area is covered with vaseline gauze and pressure dressing. After 24-48 hours, the fenestrated sheets of skin grafts are spread over the raw area as bed-side procedure. The grafts rapidly get adherent to the granulating surface. A roll of gauze soaked in isotonic saline is rolled over the graft to press out the air bubbles and blood. The grafted area is left exposed. The patient is instructed not to move the grafted part. A cradle is used to prevent contact of blanket with the grafted area. Breathing and limited degree of body movement in the bed does not result in shearing of the graft as occurs under a dressing. The grafted area is inspected daily. If there is pus discharge, it is mopped off immediately and if there is seroma formation, it is punctured and drained. Thus the grafted area is kept

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dry till the graft takes and settles well.

Results

Total No. of cases : 125

- 1) Complete take of graft in : 112 cases.
(90% cases)
- 2) 5-20% loss of graft in : 8 cases.
(6% cases)
- 3) 20-25% loss of graft in : 2 cases.
(about 2% cases)
- 4) Complete loss of graft in : 3 cases.
(about 2% cases)

The last two groups of cases were those who were least co-operative (mostly children) and the major loss of graft was due to the effect of rubbing with the bed.

Discussion

It has long been known that a pressure dressing is not essential for split thickness skin graft to become, vascularised (Laplac, 1908). The first exposure method of skin grafting was devised by Sano (1943). It consisted of use of a physiological adhesive

medium prepared of two solutions, which when brought together, developed fibrinous adhesive coagulum. Calnan and Innes (1957) introduced exposed grafting for use in area where dressings were difficult to apply. However, we have used this technique over almost all sites (limbs, face and trunk). The only contraindications we have found are circumferential raw areas and young children due to obvious reasons.

The main advantages of this technique are saving of the time in surgery and better results. The better results are due to (a) complete haemostasis (b) grafted area remains dry (c) provision to inspect the grafted area daily (d) absence of shearing effect common with dressings.

Summary

A series of 125 cases of granulating raw areas of different aetiology treated by delayed exposure method of secondary skin grafting is presented. The advantages of the technique have been outlined.

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