

Micrografts versus Meshgrafts

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The MEEK Micrograft skin grafting technique offers a more effective expansion rate of a split skin graft than the meshgraft technique. This technique also allows the use of small split skin fragments. From the first experiences with the MEEK Micrograft "island" technique in the Burns Centre it showed that the take of the graft was good, despite a qualitative inferior wound bed.

Recently a patient with an extensive skin and soft tissue defect, requiring skin grafting, was treated in the Burns Centre. It concerned a 50 years old male who sustained a septic shock because of an infection by a haemolytic *Streptococcus* group A, two weeks before admission. He developed a respiratory failure requiring artificial ventilation, a thrombocytopenia and a necrotizing fasciitis that involved a soft tissue necrosis of the right leg, groin and right side of the trunk. In a hospital elsewhere an exarticulation of the right hip and an extended necrotectomy of the right side of the thorax, the abdominal wall and the right groin was performed. Because of the clinical condition and for further treatment of the wounds he was referred to the Burns Centre.

On admission we saw a man in a poor physical condition with a skin and soft tissue defect over 15% of the total body surface area. The wound bed was made up of subcutaneous fatty tissue, fascia, muscle and little granulation tissue. Bacterial swabs of the wound showed *Pseudomonas Aeruginosa*. The day after admission a wound debridement was performed and the wound was further treated with Silversulfadiazin cream with a high acidity. The degree of bacterial contamination and the content of necrosis diminished and the amount of granulation tissue increased. Ten days after the first debridement another necrotectomy was performed and the whole wound was covered with micrografts 1:6. The grafts took well and six days after this procedure the wound was again covered by micrograft 1:6. These grafts took almost 100% as well. Minor skin defects remained, no further grafting was necessary.

Discussion

Rapid wound covering and decontamination of the wound are conditions that improve the physical well being of the patient. Extensive donorsites need to be avoided and a skin grafting technique with a high success rate must be applied. Therefore in this case we choose an early wound debridement and wound decontamination with Silversulfadiazin cream with a high acidity.

Figure 1 clearly shows the size of the two donorsites compared to the grafted wound bed. Figure 2 shows a detail. Deliberately a skin grafting technique was used whereby skin islands were "sowed" onto the wound bed. The original plan was to repeat this procedure until complete closure of the wound was obtained (Fig. 3). Because of the good take of the graft, only two skin grafting procedures turned out to be necessary.



Figure 1. Overview of the wound bed with donorsites, 6 days after operation

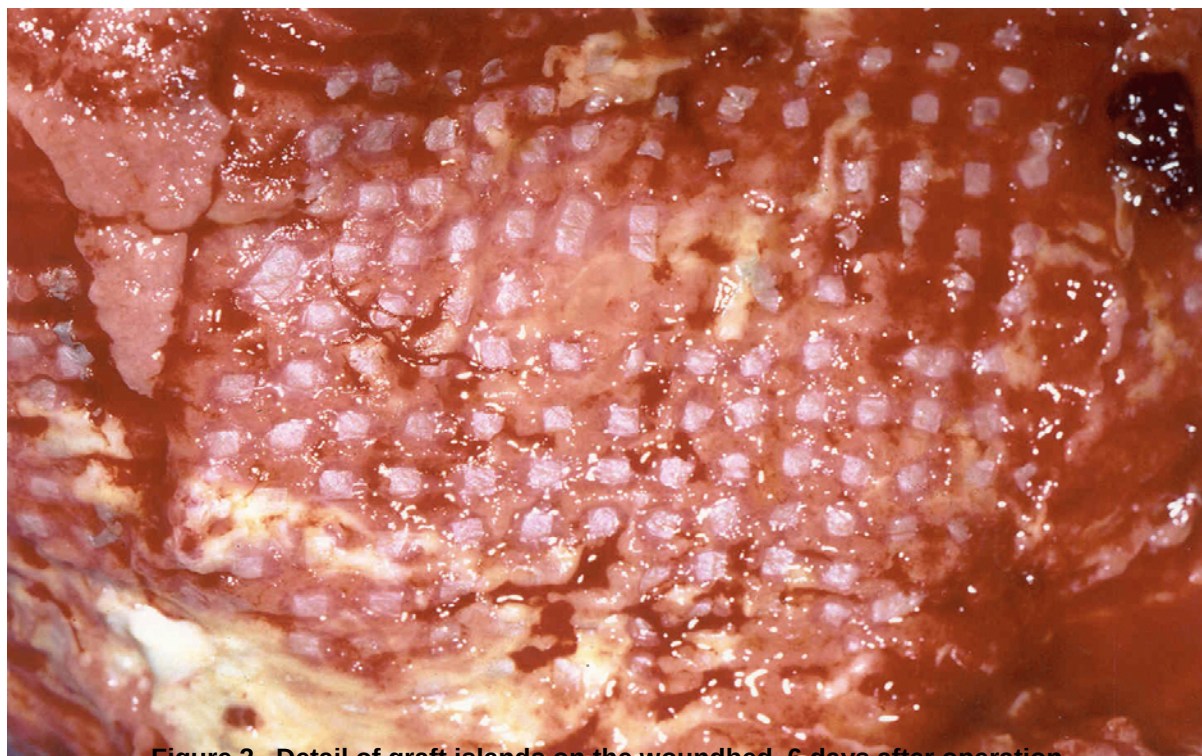


Figure 2. Detail of graft islands on the woundbed, 6 days after operation



Figure 3. Situation after a few weeks: epithelialization almost