The treatment of donor sites with polyvinylalcohol hydrogelfilm (Cutinova®)*

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Summary. Split-skin graft donor sites of 25 patients were covered with transparent polyvinylalcohol-hydrogelfilm (Cutinova®). The wounds healed without pain, and without the abundant leakage as seen with Opsite®. The important advantage of Cutinova® is that it does not adhere to the wound, it is painless to remove without damage to the epidermis. Due to its limited size (maximal 15 × 30 cm), it is less suitable for large donor sites.

Key words: Donor sites – Polyvinylalcohol hydrogelfilm – Wound dressing – Splint-skin graft

The most important characteristics required by the ideal wound dressing are still a matter for discussion. Controversies about the advantage of a moist versus a dry environment continue to exist. The dressing should prevent bacterial contamination from outside as well as from resident flora, prevent desiccation of the wound and on the other hand, it should absorb much of the exudate. The latter is to avoid maceration and formation of a bacterial culture. The dressing should not stick to the wound, and last but not least, it should not be labor intensive or expensive. The diversity of available materials indicates the difficulty of combining all the above-mentioned characteristics into one type of wound dressing.

Covering split-skin graft donor sites with paraffine gauze, frequently gives rise to complaints of pain, ingrowth of epithelial cells and partial separation of the new epithelium upon removal of the dressing [1, 3]. Application of several layers of paraffine gauze or covering wounds for a long period leads to maceration of the skin.

With the use of polyurethane drape (Opsite) a number of the disadvantages are minimized, especially the postoperative pain; but even with this material, adhesion to the newly formed epithelium occurs. Besides this, serous fluid is not absorbed by the drape, resulting in leakage and shifting of the dressing when excess fluid is produced [3, 5]. Table 1 (first two columns) summarizes the characteristics of paraffine gauze and Opsite as have been reported in the literature. A new product (Cutinova)1 appears to combat most of the disadvantages, since fluid absorption is one of its features.

The aim of our study was to evaluate its use as a donor site dressing. The product is further described in detail below.

Material

Cutinova® is a transparent, supple gelfilm composed of a polyvinylalcohol hydrogel, strengthened by a polyester network (Fig. 1a). The hydrogel is capable of absorbing fluid a few times its own weight and has a limited permeability for vapor. In contrast to most materials, Cutinova is non-porous and, therefore, impermeable to bacteria.

Extensive tests did not show any allergic reactions to its different components. It is identical on both sides – the silicone paper applied on one side is only used for the purpose of packaging and should be removed before use.

Methods

In 25 patients, the donor sites of split skin grafts on the thigh were covered with a moist gauze compress. Hemostasis being achieved, the wound was covered with Cutinova and an absorbent pad of Cutsorb or a gauze compress, stabilized with an elastic dressing (Fixomul Stretch) or a crepe bandage (Figs. 1b–c, 2). Only in case of excessive fluid production was Cutinova replaced after 1–2 days; in all other cases, it was left in situ until epithelialisation had taken place.

Objective registration of the different criteria appeared impossible in our study – a negative aspect which has also become apparent in reading other literature. Therefore, a subjective study by

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1 Produced by Beiersdorf, FRG
Fig. 1a-c. Cutinova is a transparent film, strengthened by a polyester network (a), covered with an absorbent pad (b) and a bandage (c).

Fig. 2a-c. Aspect of donor site (a), covered with cutinova (b), and after 10 days (c), before removal.

means of a patient pain questionnaire (ranging from very painful +++, painful ++, slightly painful +, to pain free -) has been done, while other characteristics such as time to healing, adherence to the wound, etc. were recorded by the surgeon.

Results

Postoperative pain from donor sites covered with Cutinova was recorded as minimal (slightly painful + to painfree - in a questionnaire). No clinical signs of infection were observed. Swabs taken when Cutinova was replaced during the healing process showed no bacterial culture.

Cutinova absorbed wound moisture whereby only a powdery crust remained on the wound surface. Leakage through the dressing did not occur, neither was there any maceration of the skin. Any possible leakage along the edge of the Cutinova was completely absorbed by the Cutsorb or the gauze padding. None of our patients required repadding postoperatively due to leakage of serous fluid from the wound. Depending on the depth of the wound, healing occurred in the expected period of 7 to 10 days. In the first five patients, Cutinova was changed daily without causing fresh bleeding of the wound, while it was left undisturbed for 7–10 days in the rest of the patients.