

R E P O R T

on Clinical Evaluation of AQUA-GEL Hydrogel
Dressing

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Department of Burn Wound Healing

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Department of Burn Wound Healing of the Central Hospital of Steel Industry in Siemianowice, Poland, has obtained Hydrogel dressings of a symbol AQUA-GEL for use in healing burn wounds from the Institute of Applied Radiation Chemistry in Lodz 120.

The examinations were carried out for 33 patients on 64 observation fields. The surface of an individual observation field was more than 1% of total body surface. The age of patients was in the range 5 - 60 years. Total surface of burn wounds amounted to 5 - 40 % of a total body surface.

Twenty six observation fields were examined of a middle skin thickness - 2a°. Seven observation fields covered deep burns of a middle skin thickness 2b°, and seven those of full skin thickness (3). There, it was observed the behaviour of tissue ground after necrotomy up to fascia on 8 fields, the behaviour of tissue granulation during the preparation for operation, and on 10 fields the effect of gel dressing on the protection of net auto-graft, Table 1.

Table 1

Application of Hydrogel dressings in burn wound treatment

Group	Kind of damage	Observation Fields	Results		
			good	average	bad
1	2a°	26	23	2	1
2	2b°	7	4	1	2
3	3°	7	0	3	4
4	skin loss after necrotomy	8	5	2	1
5	tissue granulation	6	3	2	1
6	protection of reticulum graft	10	8	1	1

Criterion of healing evolution shown in Table 2

Table 2

Good results	Healing of the wound without infection, Epidermis formation within 7-14 days (ref.: superficial burns 2a)
Average	Wound healing with appreciable pus formation The time of covering the wound with epidermis over 14 days (ref.: superficial burns 2a°)
Bad results	Appreciable purulent secretion The time of wound healing considerably prolonged

CONCLUSIONS

From clinical examinations of AQUA-GEL dressings carried out in the Central Hospital of Steel Industry in Siemianowice - Department of Burns

1. The hydrogel dressing is a good dressing for healing superficial skin burns of intermediate thickness (2a°), clean and not infected. The dressings adhere well to the wound, and do not cause any side-effects. Putting on and removing the dressings is painless. During removing the dressings no damage to the newly formed epidermis is observed. The dressing protects the wound well against drying, and external infection. The grooves at the outer side of the dressing make it possible to administer locally additional fluids and antibiotics, which are uniformly spread over the wound surface.
2. In widespread burns, the use of a special polyester net (Codofix) may be needed to hold the hydrogel dressings on the wound. The change of dressings: once per 24 h.
3. In the deep burns of intermediate thickness of skin (2b°) the hydrogel dressings may be useful in the first days of burn as protective agents up to the moment when necrosis is removed from the outer layers of skin. In this period, frequent change of the dressing is required, at least twice in 24 h.
4. In the full thickness skin burns (3°), the hydrogel dressings have rather limited application. In the full thickness skin burns there is a tendency to remove necrosis as soon as possible followed by covering the reduced area with an autodermic graft.
5. Good results have been obtained in the temporary use of the hydrogel dressings after removing necrosis up to the fascia, up to the moment when the decision is taken to cover the decrement with a skin graft of intermediate thickness.
6. The hydrogel dressings may also be applied for granulation in the process of preparing them for the grafting. However, frequent change of dressings is required - at least twice per 24h.
7. The hydrogel dressings protect well the mesh graft, and the mesh graft adheres well to the base. The condition of success is however good granulation and not an infected wound. In clean wounds, the hydrogel dressings should be changed on the average twice a day.

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