

# Clinical efficiency of a hydrocolloid wound dressing\* in the treatment of severe burns in children

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## Introduction:

The spectrum of wound dressings for the topical treatment of burns has considerably broadened during last decades. One of the most current problems is the use of wound dressings, provided the healing of the wound in moisture environment.

The goal of the study was the assessment of clinical efficiency of hydrocolloid dressing (HCD)\* in the treatment of children with severe IIIA and IIIB burns.

## Material and Methods

HCDs\* were used in the complex of treatment of 70 patients aged 3 months – 18 years with burn surface 2-60%. Patients was hospitalized to the burn department of children's hospital №1, Saint-Petersburg, Russia. Sixty five patients of control group of the same age and surface of burns received complex treatment, including gauze bandages and ointments, but without HCD\*. Clinical assessment of treatment efficiency was based on the frequency of bandage changing, visual assessment of the wound and the process of it's healing, the degree of traumatization during bandage change, subjective sensation of pain during bandaging, convenience for the patient (increase of compliance).

## Results

In patients with IIIA burns, who were treated with HCD\* partial epithelisation of the wound was registered in 12-14 days, complete epithelisation in 17-19 days, it was 5-7 days earlier, that in patients of control group, who did not received HCD\*. Purulent wounds were banded every 2 days, after cessation of inflammation and decrease of exudation – every 5-7 days. Removing of HCD\* did not cause any traumatization of the wound and granulation tissues in contrast to traditional gauze bandages. Patients assessed the properties of HCD\* as very good, because they did not feel pain (or feel a minimal pain only) during removing bandages and during everyday wearing it. Patients did not need additional anaesthesia during manipulation. There were no toxic and allergic reactions (very good local tolerance).

Hydrocolloid dressing\* was used in patients with IIIB burns during the preparation of granulating wounds for autodermoplastic surgery. This type of bandages stimulates regenerating processes after cleaning wound from necrotic – suppurative masses. It can be also effectively used during inflammation period, significantly increasing speed of cleaning wounds from surface necrotic eschar. Decrease of perifocal inflammation and lysis of necrotic tissues was achieved in 3-5 days after beginning of the treatment. HCD\* absorbed exudate actively and prevented the secondary wound infection. Margin and islet epithelisation appeared in many patients, mature granulation tissues developed more rapidly. HCD\* provided focal mosaic epithelisation of deep IIIA-IIIB burns in 21-25 days and helped to reduce the surface of deep IV burns before the surgery.

## Conclusions

Hydrocolloid dressing\* is effective not only in the treatment of children with surface burns II, but also in the treatment of deep burns IIIA-IIID. It can be used at the stage of inflammation, because it accelerates the clearance of wounds from purulent and necrotic tissues, it stimulates the reparation of cleared wounds. The advantage of the hydrocolloid dressing\* is decreasing the frequency of bandage changing, painless process of changing bandages, comfort of it wearing, increasing of quality of life during treatment.

We can conclude, that HCD\* is one of the most efficient methods of topical deep dermal burn's treatment and helps to shorten the terms of hospitalization in such a patients.

\* HCD = Suprasorb® H, Lohmann & Rauscher

## Extrem burns of infants - treatment with HCD\*

### Case I:

Infant (3.2 years old), female. burns (7%, II-III A) with hot water (scald) during inhalation. Change of dressings every day. Impressive improved after 15 days.



### Case II:

Infant (1.7 years old), male. burns (5%, II-III A) with hot water (scald). Change of dressings every second day. Healed after 16 days.



### Case III:

Infant (1.3 years old), male. burns (8%, II-III AB) with hot water (scald). Change of dressings every second day. Healed after 21 days.

