

The Treatment of Face Burns with Jaloskin

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SUMMARY. The Authors present their experience in the treatment of face burns using the advanced medication Jaloskin. This medication is entirely composed of a new class of biomaterials: Hyaff membranes from esterification of hyaluronic acid, a naturally occurring extracellular matrix molecular. This treatment was used in 40 children with good aesthetic results. Some significant cases are presented.

About 25% of extensive paediatric burns affect the face. Face burns are always an important problem and admission to hospital is often necessary, even if only for a short period. The face constitutes 5-10% of the body's surface area, varying according to age.

Face burns cause a considerable loss of fluids owing to the elasticity of the tissues affected and the abundance of vascular tissue. Considerable oedema may be present even in superficial burns, while in deep burns the non-extending eschar prevents the external manifestation of oedema. In deep burns we may therefore encounter oedema in the oral and pharyngeal mucous membrane with alimentary and respiratory complications.

The most frequent causative agents of face burns are boiling water, hot soup, flame from a plastic container holding surgical spirit held near a source of heat, and fireworks. When epidermic and superficial dermal burns are not complicated by infection, they recover without scars. To cover burns with the various medications available, it is necessary to prevent them from becoming infected, in order to guarantee complete and rapid recovery.

In deep dermal burns, spontaneous recovery occurs with the formation of a considerable quantity of unaesthetic scarring.

Early removal by means of a dermatome of necrotic dermis reduces the inflammatory effect and scarring. The removal of necrotic dermis leaves a thin surface of vital dermis. It is useful to cover burns with autologous skin. It is also useful to make a cover dressing when the surface of vital dermis is higher in order to provide the epithelial residue of the dermis, which prevents the spontaneous formation of epithelium.

In the last two years we have used Jaloskin, a transparent film medication, in cases of second-degree superficial burns. This medication is entirely composed of a new class of biomaterials: Hyaff membranes produced by esterification of hyaluronic acid, a naturally occurring extracellular matrix molecule. Hyaff membranes exhibit

high biocompatibility and biodegradability and have been shown to enhance tissue repair.

When the Hyaff membrane is placed in contact with the wound, its characteristic of selective permeability to aqueous vapour allows a natural drainage of excess exudates, thus avoiding maceration of tissues. Hyaff's selective permeability, on the other hand, keeps the wound moist, thus creating the ideal conditions for rapid healing.

The transparency of the Hyaff membrane permits constant visual monitoring of the underlying healing processes. The Hyaff membrane does not adhere to the wound, and it can be removed without causing microtraumas to the newly-formed tissues.

After cleaning and disinfection of the wound with chlorhexidine 2%, we apply the Hyaff membrane, which is kept in place for at least 7 to 11 days. We perform a control inspection after 2 days and it is possible to discharge the patient after 3 days, continuing treatment as an out-patient. We achieved complete epithelialization in all patients within 10-15 days. There were no cases of wound infection and no patients experienced any pain from the wounds.

It should be noted that all the patients only received a single application of the Hyaff membrane. Its healing properties were always described as very good and no device-related adverse events were observed. This treatment induced a reduction of hospital stay to 3 days, with considerable benefits for the patients and for hospital.

We have treated 40 children with this method in the last two years, and we have obtained remarkable aesthetic results.

Conclusion

The Authors believe, on the basis of their experience, that the use of the Jaloskin membrane is a useful therapeutic method for the treatment of second-degree face burns. These wounds are very difficult to treat as they easily become infected. The Hyaff membrane, owing to its formation by the esterification of hyaluronic acid, makes it possible to cover the wounds and stimulate epithelialization. This medication also obviates the need of frequent medications, which are inevitable if the wounds remain open, with considerable pain for the young patients. Jaloskin reduces hospital stay to the benefit of the patient, the family, and the hospital. Jaloskin reduces possible complications and scars, which are frequent when the burn becomes infected.

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