
Local treatment of burns: a modern approach.

In recent years, much research has been conducted with an aim to optimising the local treatment of second-degree burns. With this category of burn we are not just concerned with closure of the wound, but rather with rapid healing with a good aesthetic and functional end result.

It is, after all, important to prevent disfiguring hypertrophic scarring, which often occurs when wounds take too long to heal (more than 18-21 days). For the treatment of these second-degree burns, recourse is often made to Flamazine®, mainly because of its excellent antibacterial properties. In addition to this indisputable benefit, Flamazine® also has a few disadvantages. The most important of these are:

- Flamazine® forms pseudo-eschar on the wound, making correct clinical assessment difficult, if not impossible;
- Flamazine® delays wound healing to a certain extent.

This results in second-degree burns often not healing within the suggested period of 18-21 days.

The depth of the second-degree burn

Assessment of the depth of the burn warrants the greatest attention. In second-degree burns, clinical assessment alone of the depth of the burn is correct only in 60-65% of cases. Laser Doppler imaging, a specialist technique in which blood circulation of the wound can be measured, allows a more accurate assessment to be made. Examinations using this device are more than 95% accurate. This device thus enables an estimation of the healing potential of the burn. At the burns unit in Ghent,

an estimate of the healing duration can even be accurate to a few days.

Products and dressings

With a view to optimising rapidity of healing with as few complications as possible, we have seen an enormous increase in new products in recent years. The development of Hydrofiber dressings such as Aquacel® and various foam bandages spring to mind. The development of antibacterial dressings such as modern silver-containing dressings (Aquacel® Ag, Acticoat®, Mepilex® Ag and Silvercel®), honey dressings and products based on povidone/iodine have gained momentum.

An ideal product must have at least some of the following properties:

1. creation of an optimum (moist) wound environment
2. debriding effect
3. protection against infection
4. analgesic effect
5. convenience for the patient and carer

Flaminal® Forte is one of these new products, so much so that during recent years, it has been shown to score well in many of these properties.

Flaminal® Forte is an alginate gel with an antibacterial enzyme system. Flaminal® Forte effects rapid healing without secondary infections. Flaminal® Forte

consists of an advanced technology, based on the combination of an alginate gel with a patented antibacterial enzyme system: when bacteria come into contact with Flaminal® Forte, a series of enzyme reactions are triggered that ultimately result in the production of free radicals. These reactions take place close to the bacterial cell wall. This means that a broad spectrum of bacteria is killed without damage to the dermal and epidermal cells necessary for good wound healing, i.e. without delaying wound healing.

Due to its high levels of alginates in gel form, Flaminal® Forte has an excellent debriding effect and produces no pseudo-eschar layer in the wound bed. This permits a much better clinical assessment. The debriding effect and the absence of a pseudo-eschar layer mean the wound is optimally prepared for laser Doppler imaging. From a therapeutic standpoint, Flaminal® Forte combines good antibacterial properties with maintenance of a moist wound environment that is optimal for healing. Around the margin of the wound itself, Flaminal® Forte forms a layer of alginate particles, which protect the edge of the wound. This product is therefore important in helping to close the wound rapidly, resulting in a good aesthetic and functional outcome.

In practice: how should burns be cared for?

In practice, second-degree burns should be treated with the help of Flaminal® Forte as follows:

Assessment:

In order to implement the correct treatment for this group of burns, it is of course important that the burn be correctly identified as such. The clinical picture is usually a patient with very painful burns and blister forma-

Clinical outcome following use of *Flaminal® Forte*



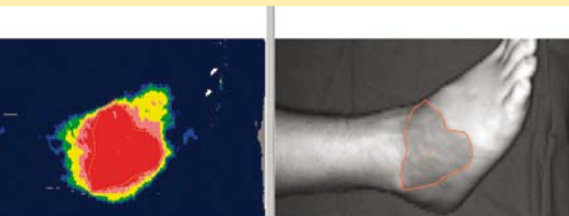
1

burn with blisters and start of Flaminal® Forte use + tulle gras/gauze dressing and dry sterile dressing



2

1 day following burn incident and following debridement



3

LDI scan; the red colouration indicates a second-degree burn that should heal in about 14 days



4

burn after 5 days of Flaminal® Forte use

tion, which may worsen in the first few hours. If the blisters burst or are already open, a very moist red to light-red wound bed is observed. If the wound bed is pressed then released, the capillaries fill rapidly (capillary refill) and the skin feels elastic. An additional test that can be carried out is gentle pulling on any hairs present. If good resistance is felt, second-degree burns are almost a certainty, healing within 18 days. If the wound bed has a cloudy red and white appearance however, the burn may be much deeper and referral to a specialist centre is necessary. A deep second-degree burn would not heal within 21 days in any case.

First treatment:

Nurses should wear an apron, cap, mask and gloves.

The patient should be made comfortable and given pain-killers, with the burn placed on a sterile drape. Ideally, a sterile drape should be used that can absorb fluid when blisters are pricked open and cut away. A pain medication e.g. paracetamol 1 g or tramadol 50 mg can be given half an hour before the change. The daily maintenance dose is prescribed by the doctor.

All the required materials should be set out ready, such as: sterile drapes, basin, compresses for cleaning the burn, disinfectant, dressing materials, razor blade, scissors, tweezers, spatula, tulle gras dressing (Jelonet®) and Flaminal® Forte.

First of all, the wound should be disinfected. This can be done with a solution

of iso-Betadine® and water (10% solution) or Hibitane® aqueous solution (0.5%). Hair in the immediate vicinity of the wound should be shaved, to prevent subsequent infection due to difficult hygiene.

All loose skin should now be carefully removed with scissors and tweezers; blisters should be opened and completely cut away. Open wounds should again be gently disinfected and then rinsed with water or physiological saline solution to prevent the disinfectants from causing a burning sensation. For small burns, Flaminal® Forte can now be applied with a spatula in a layer about 0.5 cm thick directly to the wound. A layer of tulle gras dressing and on top of this a gauze dressing should then be applied. This can all be secured with bandages and a Velpeau bandage.

For larger burns, the above method is impractical and may be painful. Flaminal® Forte contains alginate particles that may feel a bit rough and therefore painful if spread on. This discomfort can be prevented by preparing the dressings before applying them. A gauze dressing of a suitable size should first be laid out. A layer of tulle gras dressing is then placed on top of the gauze dressing; the 10 cm x 7 m size dressing can be used and for very large burns the version supplied on a roll. The tulle gras dressing is then covered with a layer of Flaminal® Forte. Finally, the whole structure is placed on the burn.

5



healing complete after 15 days

Dressing change:

Once the patient is settled, the dressing should be removed. A layer of Flaminal® Forte is still usually present on the wound. This layer may have gone yellow or green as the exudate, necrotic tissue and gel have mixed together. This is normal and no reason for alarm! It is important to look out for other cues such as redness of the surrounding skin, unpleasant odour, severe pain and fever, which may result from infection. If in doubt, wound culture is recommended, possibly with the introduction of antibiotics on the doctor's advice. Once the dressing has been removed, any remaining Flaminal® Forte should be removed using soft compresses. The burn should then be washed with a gentle soap such as Eucerin® cleansing lotion or with a disinfectant soap such as iso-Betadine® Germicide. It is absolutely essential to remove any new blisters and loose skin. The procedure described for the first day should then be followed.

Progress:

It is extremely important to inspect the burn carefully every day. If possible, regular photographs should be taken, to monitor progress objectively. A daily appraisal should be made of whether an improvement has been made and whether the burn will epithelialise within the suggested maximum duration of 18 days. If on the 12th day after the burn occurred it is still uncertain whether epithelialisation will occur, the patient should be referred to a specialist hospital with a high level of experience of burns,

i.e. preferably a hospital with a burns unit. It may be the case that the burn was in fact deeper than initially thought and that skin graft surgery is necessary.

Once the burn has healed, the new skin requires good hydration with a moisture-regulating emulsion; we often use Flamigel® for the first few days and then Alhydran® (cream with a high aloe vera content), Eucerin® or Nivea®. It is also important not to apply these products in a thick layer, but instead to apply them in thin layers several times a day.

If the burn has been open for more than 16 days, the patient should be referred to a specialist centre to determine whether compression bandages are necessary.

Finally, the patient should be advised to keep the burnt area out of the sun for at least one year, to prevent unsightly discoloration (hyperpigmentation). If the skin colour has returned to normal, the patient can gradually start to go out in the sun again as long as a high protection factor of > 50 SPF is used. For children, and of course also adults, special UV protective clothing and swimwear can also be obtained to enjoy a pleasant holiday.

Henk Hoeksema
Burns and Research Coordinator
Plastic and reconstructive
surgery clinic
Burns unit
Ghent University Hospital
Email: Henk.Hoeksema@UGent.be

info@flenpharma.com
www.flenpharma.com



application of Flaminal® Forte with spatula to small burns

Application of Flaminal® Forte to burns

Application of Flaminal® Forte to the tulle gras dressing then application to the wound.

If using in this way, lay out a gauze dressing, cover with a tulle gras dressing and then apply Flaminal® Forte to this.

When applied, the Flaminal® Forte is in contact with the patient, followed by the tulle gras dressing, then a sterile gauze dressing and then the securing bandage.

