Dealing effectively with heavily exuding wounds
Zetuvit® Plus tested in clinical practice

Summary

A clinical application study was conducted to evaluate the wound healing supporting effect, tolerance and application characteristics of the new Zetuvit® Plus absorbent dressing pad. A total of 61 patients with chronic ulcers, mainly of venous origin, and non-chronic, predominantly surgical wounds were treated for an average period of 10 days. The wounds were on average 5 months old at the start of treatment.

An overall improvement in the wound status was observed during the course of treatment: wound exudation was markedly reduced and there was an accompanying decrease in the number of infections. There was a steady decrease in the number of patients complaining of wound pain.

Overall, the attending personnel and the patients were very satisfied with the Zetuvit® Plus treatment. For more than 90% of the treated wounds, the attending personnel rated not only the general impression but also the application characteristics and various product properties as "good" or "very good". The high absorption and binding capacity of the absorbent dressing pad contributed substantially to this result. Treatment with Zetuvit® Plus also met with very high acceptance among the patients. More than 90% of the patients had a "good" or "very good" overall impression of the treatment with Zetuvit® Plus. The tolerance and patient comfort were major factors in this respect.

Zetuvit® Plus

Zetuvit® Plus is a wound dressing particularly suitable for the management of heavily exuding wounds. It binds wound exudate rapidly and reliably retains it within the absorbent core. This exudate removal eliminates inhibitory factors from the wound, thus promoting wound healing. The high absorption and retention capacity reduces the frequency of dressing changes and affords protection against renewed infection. Zetuvit® Plus also has a good padding effect ensuring that the wound margins are not irritated.

The combined absorbent dressing pad consists of four layers of different materials. The dressing core is made from soft cellulose fluff blended with fluid-retaining polyacrylate. The absorbent core is enclosed in a thin non-woven fabric that uniformly distributes the fluid. On the side facing away from the wound, the product features a special water repellent non-woven that is permeable to air. The entire product is enclosed in a soft two-layer outer non-woven. The outer surface of the non-woven consists of hydrophobic polyamide fibres which do not absorb fluid, preventing it from sticking to the wound. The inner surface of the non-woven consists of hydrophilic cellulose fibres and has high capillary activity.

Effective wound treatment should be phase-specific (1) and support the physiological healing process by eliminating interfering factors.

An important part of wound healing is the exudation phase, in which the wound is cleaned by the cells migrating into the wound area (2). Problems arise if this phase is prolonged and the exudate which initially promotes healing exerts harmful effects on the peri-wound area and no longer contributes to the healing process. Excessive exudation is observed not only in chronic wounds, but often also in bacterial superinfections of acute wounds. Under these conditions, bacterial constituents stimulate the release of pro-inflammatory mediators by activating specific surface receptors of inflammatory cells (3, 4). Vascular cells respond to this situation with increased permeability, which explains the sometimes marked tendency of these wounds to exudation.

Proper exudate management must therefore ensure that excess exudate is removed from the wound. On the other hand, it is important that dressing changes should not be more frequent than necessary in order to avoid disturbing the wound rest, which in turn could cause renewed bacterial contamination.

The need to satisfy these requirements resulted in the development of the highly absorbent dressing pad Zetuvit® Plus, which is particularly suited for the effective removal of bacterially contaminated exudate from heavily exuding wounds.

This study was performed to determine how far the new wound dressing pad meets the requirements of clinical practice.

Multicentre study with 61 patients

A multicentre study was conducted in 61 patients with wounds of varying etiology to evaluate the wound healing supporting effect, tolerance and application characteristics of Zetuvit® Plus. 15 attending personnel documented the course of the study over an average period of 10 days with three dressing changes, and with the final dressing change simultaneously being the concluding examination. At the initial examination, data on the patient's age, gender and general condition, the age of the wound and additional therapeutic measures were recorded. The success of the wound treatment with Zetuvit® Plus was assessed on the basis of the exudate management and the incidence of infections. Anomalies in the periwound area and the occurrence of pain were also documented.
After completion of the treatment with Zetuvit® Plus, the attending personnel assessed the wound dressing pad on the basis of the course of treatment, its application characteristics and various product properties and also indicated the extent to which the product had fulfilled their expectations. The patients were also asked to state how satisfied they were with the product and also about the tolerability and user comfort during treatment with Zetuvit® Plus.

More than 80% of the patients had moderately or heavily exuding wounds and less than half had infections.

The majority of the patients were suffering from wounds associated with moderate or heavy exudation, including both chronic wounds such as venous ulcers and non-chronic, e.g. surgical wounds.
The 34 female and 27 male patients had an average age of 68 years. In 18% of cases the general condition of the treated persons were described as "very good". In more than half of the patients, the state of health was classified as "age-appropriate" and in 26% as "debilitated".
67% of the patients we re suffering from a chronic wound, 34% of the wounds had been diagnosed as venous leg ulcers (ulcus cruris venosum).

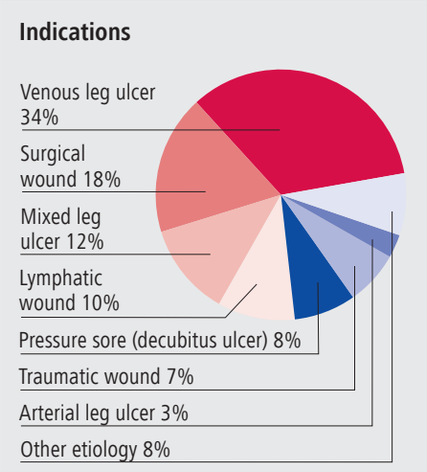

Fig. 1: Etiology of the treated wounds

The other chronic wounds were classified into mixed leg ulcers (12%), lymphatic wounds (10%), pressure sores (8%) and arterial leg ulcers (3%). Of the non-chronic wounds (25%), well over one half were consequences of a surgical intervention (total 18%) and 7% of the wounds were the result of an injury.

The mean age of the wounds was 5 months. A large portion of the patients (44%) were enrolled in the study because of the lacking success of prior wound treatment. Other categories comprised initial treatments (29%) or a change to Zetuvit® Plus during treatment with a different wound dressing pad after the wound had entered a different phase of healing (26%).
28 patients received compression therapy as a causal treatment because their chronic wounds were predominantly of venous origin. In many patients, Zetuvit® Plus was combined with another product during the course of treatment. Silver-containing ointment dressings were often used to protect against infections. In some cases, deeper wounds were additionally treated with alginates to ensure better contact with the wound bed.

In combination with the accompanying measures, the much lower microbial contamination resulted in a reduced incidence of wound infections.

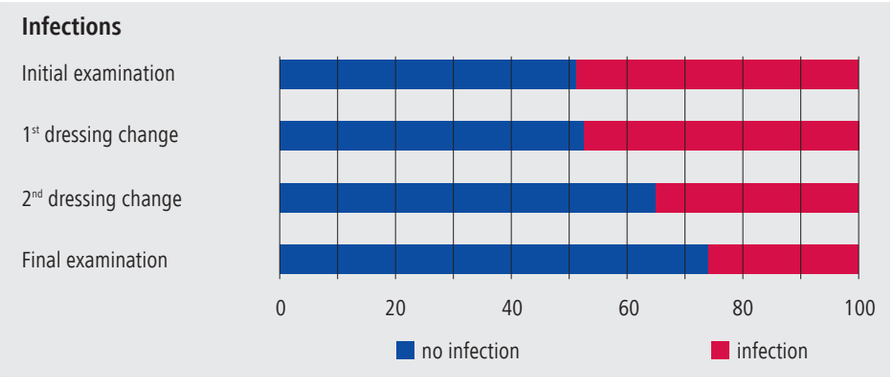

Fig. 2: The number of infections decreased during the course of treatment.

While the attending physicians and nursing personnel initially observed signs of a clinical wound infection in every second patient, at the end of treatment 74% of the wounds were free from infections.

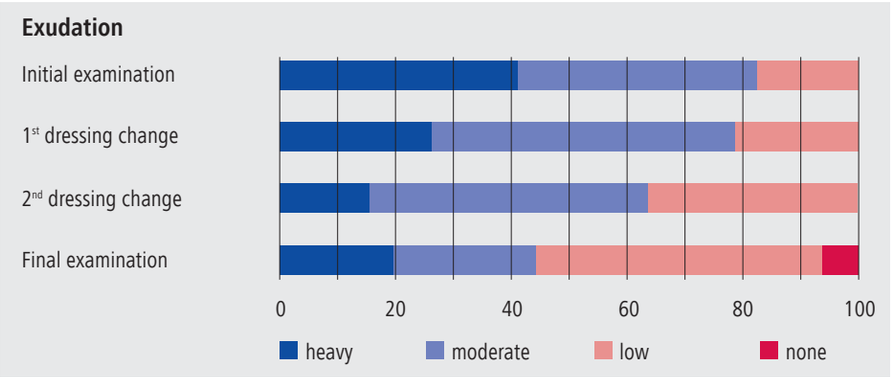

Fig. 3: The proportion of heavily exuding wounds was halved from 41% at the start of the study to 20% at the final examination.

The effective wound management with Zetuvit® Plus led to an overall reduction of wound exudation. While at the start of the study 82% of the wounds were reported to be moderately or heavily exuding, at the final examination only 44% fell into these categories.
The periwound area was also protected from damage by elimination of the excess exudate. Irritations of the wound margins decreased significantly during the course of treatment, resulting in a doubling of the proportion of periwound areas without irritation from 21% at the start of the study to 43% at the final examination.
A decrease in wound odour was also documented. While at the start of the study 61% of the wounds had a slight to strong odour, at the final examination only 28% of the wounds were affected by slight or moderate odour production.

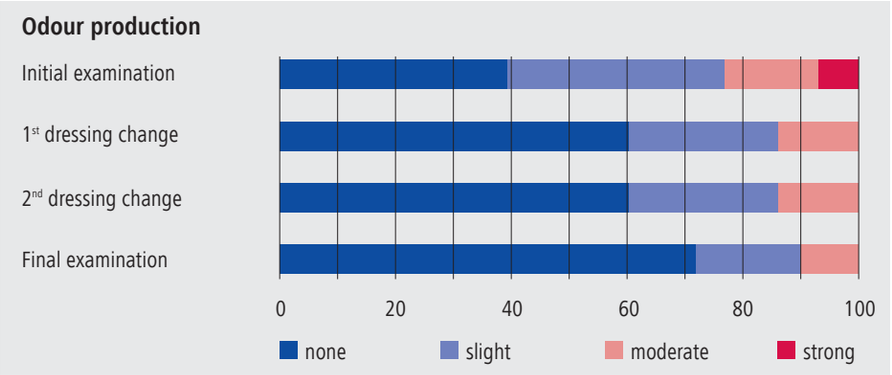

Fig. 4: At the end of the treatment only 28% of the wounds had a slight or moderate odour.

Fewer patients complained of wound pain

The removal of tissue damaging exudate and the associated decrease in infections meant that the number of patients complaining of wound pain steadily decreased during the course of treatment. While at the start of treatment 45% of the patients were still suffering moderate or severe pain, this proportion decreased to 19% during the course of treatment. At the same time, the proportion of pain-free patients increased from 16% to 39% during the course of treatment.

Positive assessment by attending personnel

The physicians and nursing personnel concluded that the state of the wound had significantly improved during the course of treatment with Zetuvit® Plus. In 43% of cases the state of the wound was assessed as improved and in 36% of cases as markedly improved at the end of the study. In no case an impairment of the wound status was found.
The product properties and the application characteristics of the new Zetuvit® Plus were highly valued by the attending personnel.

Fig. 5: Almost all the properties of the new Zetuvit® Plus were rated as "good" or "very good" for 90% of the treated wounds.

For more than 90% of the treated wounds, the persons questioned rated Zetuvit® Plus as "good" or "very good" as regards its absorption capacity for wound exudate and its wearing time on the wound. The absorbent wound pad owes this positive assessment to its particularly high absorption and binding capacity. The hydrophobic outer surface made the absorbent pad easier to remove on changing the dressing, with the result that this property was rated by the attending personnel as "good" or "very good" in 88% of cases. The attending personnel had a "very good" or "good" overall impression of 93% of the treatments with Zetuvit® Plus. In 61% of these cases, the expectations of those questioned were fulfilled and in 25% of cases were even exceeded. For 3% of the treated wounds they considered that their expectations "tended not to have been fulfilled".
After 85% of the treatments the treating persons stated that they would use Zetuvit® Plus again in future for similar wounds.

Going further for health

High acceptance among patients

Treatment with Zetuvit® Plus also met with very high acceptance among the patients. More than 90% of the patients rated the product as "good" or "very good" with regard to user comfort and tolerance.
This high level of patient satisfaction is attributable to the special properties of the wound dressing pad. Thanks to its combination of materials it is very comfortable in contact with the skin and exerts a good padding effect.
As a result, 95% of the patients reported having a good or very good overall impression of the treatment with Zetuvit® Plus.

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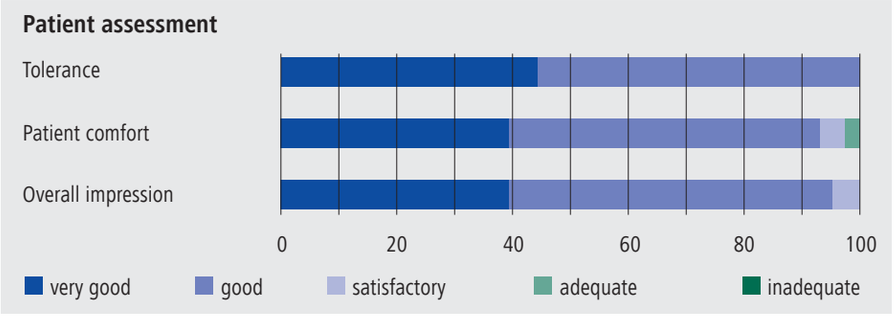

Fig. 6: More than 90% of the patients rated the product as "good" or "very good" in terms of patient comfort and tolerance.

Conclusion

The results of this clinical application trial confirm in vitro data from laboratory investigations and distinguish Zetuvit® Plus as an absorbent dressing pad with high absorption and binding capacity for wound exudate combined with patient comfort. These properties result in:

- effective exudate management
- a low frequency of dressing changes
- protection of the periwound area
- high patient comfort
- cost and time savings

and therefore fulfil the requirements placed on a wound dressing pad in clinical practice (5).
The use of Zetuvit® Plus is therefore indicated when excess exudate has to be eliminated effectively and economically from heavily exuding wounds. This was demonstrated in the present study both for heavily exuding, chronic wounds and for heavily exuding surgical wounds.

References:

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