

Clinical evaluation of Silflex® on burn wounds

Introduction

The treatment of burn wounds is complex and the correct dressing selection can have a huge impact on the time taken for the wounds to heal (Greenhalgh 1996). With correct management, dressings can speed up the healing process and prevent the formation of problematic scars (Bloemen et al 2008). However, these aims are often difficult to achieve as pain is known to be very debilitating in patients with burns and frequent dressing changes can pose a significant pain problem.

Traditionally in burn care, the most common type of dressing used is Jelonet, a paraffin impregnated gauze. However, a common problem with Jelonet is that it causes discomfort on removal (White and Morris 2009). This is due to exudate soaking through the dressing fibres and causing them to harden. On removal this can pull away newly healed skin and granulation tissue, which Judkins (1996) reviewed the amount of pain caused by Jelonet on dressing removal. The study found that over 50% of patients reported some degree of pain on removal, also high levels of bleeding and trauma.

Soft silicone technology has been developed to reduce the problems of pain at dressing changes. Silflex® non-adherent dressing is a polyester mesh which is impregnated with silicone. It is designed to adhere to the skin surrounding the wound but not to the wound bed itself. It is atraumatic and designed to minimise the pain and trauma associated

with dressing changes. The silicone contained within Silflex® is hydrophobic and does not stick to a moist wound, only to surrounding dry skin. This also gives the added benefit of conformability to anatomical contours. It also helps to maintain a moist wound environment. The mesh structure also allows exudate to drain away from the wound surface, preventing the risk of maceration.

Method

The primary objective of this evaluation was to assess the performance of Silflex® on burn wounds, in particular, non-adherence to the wound. 10 patients were treated with Silflex® with a total of 34 dressing changes. The patients age range was from 18-53 (mean 34.7 years). Seventy percent of the burns were on hands, with the depth of burn ranging from superficial to deep dermal. (See Table 1).

Burn Depth	Number of patients	TBSA
Full thickness	1	0.75%
Deep dermal	2	0.1-0.2%
Partial thickness	2	0.4-1%

Table 1 Burn Demographics

Patients were assessed using a 10 point Likert scale, with 0 being poor and 10 being excellent. Pain scores were also measured with the Likert scale, with 0 being minimal pain and 10 being extreme pain. Pain on application, ease of application, conformability, pain on removal, pain in-situ, ease of removal

and control of exudate were assessed. Patients had an average number of three dressing changes. A secondary dressing, gauze was used during the evaluation. Wounds were measured and photographed on each dressing change. Flamazine was applied to the Silflex® as an antimicrobial, a standard treatment in burn care (Edwards 2002). Overall comments were made by patients and staff.

Results

The results demonstrated that the dressing was rated low for pain on application, removal and in-situ. Only one patient had problems with adherence to the wound bed, and this was probably due to extremely high exudate and the dressing being in-situ for 3 days, rather than the recommended two days.

Overall, there were good results for conformability and exudate management. One nurse commented that Silflex® was not as malleable as other non-adhesive dressings but that it was easier to use as it was less sticky. The product was extremely conformable and was easy to apply to difficult areas, such as digits. Occasionally, it was noted that tissue granulated through the small holes within the Silflex®. However, once the wounds had healed, this did not affect the overall appearance of the resulting scar. All the nursing staff felt confident with the product and would recommend it for future use. Patients were generally happy with the results and the pain scores reflect this.



Initial Injury



Silflex in Situ with Flamazin



Healed skin graft

Case study

Mr K was a 43 year old gentleman who worked as a dustbin man. An unknown chemical leaked over his left forearm, when he was emptying rubbish into the dustbin lorry. This wound was full thickness in nature and required debridement and grafting. Due to the fragile nature of the graft, Silflex® was used for its non-adherent properties. The patient was pleased with the product as it caused minimal pain on removal. The dressings were changed on alternate days and the wound healed three weeks post surgery.

Discussion

Finding the ideal dressing in burn care is difficult, considering problems with pain, exudate and wound size. Silflex® has been found to be a useful dressing in managing hand burn wounds, one of the most painful types of burn injury. The non-adherent properties of Silflex® resulted in a reduction of wounds having to be soaked in order to remove dressings. Silflex® can be used on its own or in conjunction with topical antimicrobials. In addition, the product has been made in larger sizes to facilitate easier dressing changes in major burns.

Conclusion

Pain during dressing changes has been shown to have detrimental affects on patients which then impacts on quality of life. A study by Timmons et al (2009) found that the use of silicone dressings improved patients quality of life by reducing pain on removal, reducing anxiety and ultimately, speeding up the healing process. Wider evaluation is needed on the use of this product in larger areas, particularly as the product is now available in significantly larger sizes.

References

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