Conclusions

In this clinical investigation, Leukosan® SkinLink demonstrated that it is effective in the treatment of cuts and lacerations. Our results have shown superior performance in terms of closure time, cosmetic appearance, and patient satisfaction combined with a low incidence of wound infections and dehiscence. In addition, this simple, quick and comfortable method provides high potential of cost reduction and time savings in emergency services.

References


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Introduction

Historically suturing was the only option for wound closure after surgical procedures or incisions caused by accident. With time going by an ever increasing number of sutures material is available. Recently some innovative non invasive wound closure methods such as topical tissue adhesives or sterile closure strips had been developed [1].

With Leukosan® SkinLink a promising alternative to these new techniques is available, combining the advantages of topical tissue adhesives and sterile closure strips. Leukosan® SkinLink is offered as a ready to use kit containing two components: sterile closure strips combined with an anchoring topical adhesive fluid made of n-butyl-2-cyanoacrylate.

The aim of the investigation was to evaluate the usefulness of Leukosan® SkinLink in the treatment of cuts and lacerations in emergency departments.

Material and Methods

104 patients with injuries like cuts and lacerations participated in this clinical evaluation. The investigation was performed in three Spanish emergency departments between June 2007 and May 2008. Wounds were treated with Leukosan® SkinLink, than demographic variables and wound status were recorded. Afterwards following data were collected by healthcare professionals:

- time of application
- pain at application
- final cosmetic appearance
- wound closure performance
- handling complexity

In addition patients were asked for pain during application and satisfaction with treatment method after six days. Photo documentations were done at the day of application after six days and two month.

Results

In most cases (75 %) the patients could be treated in less than three minutes (Figure 1A). Cosmetic appearance was rated as good or very good by healthcare professionals (Figure 1B). The patients reported no or very mild pain during application (Figure 1C). Additionally, patients identified the atraumatic skin closure as satisfying or very satisfying (Figure 1D).

Complications like dehiscence and wound infections were identified in 1.9 % of the cases. Moreover, patients and healthcare professionals were extremely satisfied with the performance of Leukosan® SkinLink.

Case No. 1.

A seven year old boy presented with a laceration on the forehead which measured 20 mms long and a depth of 4 mm and was inflicted by an accidental fall against a door. Wound was cleaned (Figure 2A) prior to closure with Leukosan® SkinLink (Figure 2B). Two 7 x 60 mm strips were applied and anchored in position with the adhesive in less than one minute. No additional wound cover was needed. After six days Leukosan® SkinLink was removed (Figure 2C). Healing progress was controlled and patient’s satisfaction was assessed scoring 9 out of 10 (assessed by parents). Cosmetic result was assessed after two month scoring 8 out of ten (Figure 2D).

Discussion

Reliable, fast, cost effective and uncomplicated wound closure is of high priority in emergency services. In addition, the closure device should result in excellent aesthetic outcome and should not require device removal after wound healing [2].

Traditionally, wound closure has been performed using sutures. Sutures have a great tensile strength and the most meticulous approximation in the treatment of superficial wounds like incisions or lacerations [1]. However, tissue reactions which might be associated with suture material have been reported in the past e.g. wound infections, keloid formations, suture granulomas and suture abscesses [3-5].

Hence, new methods were developed to improve wound treatment. Adhesive tapes offer many advantages compared to sutures like being a non-invasive method and a very quick as well as painless application. The theoretical disadvantages of adhesive tapes are that they frequently fall off, have lower tensile strength than sutures, have the highest rate of dehiscence and cannot get wet [2, 6].

To eliminate these disadvantages Leukosan® SkinLink combines sterile closure strips with a topical tissue adhesive in order to improve tensile strength (now up to 4.6 kg in testing machine) and water resistance (patient must shower).

In this clinical evaluation, the performance of Leukosan® SkinLink was assessed in emergency departments. Leukosan® SkinLink was easy to apply and showed excellent cosmetic results (Figure 1-3). In addition, we observed that in most cases the patients could be treated in less than three minutes (Figure 1A). These findings are in accordance with a previous study (time to wound closure with adhesive strips 3.7 minutes and time to wound closure with a topical tissue adhesive 3.0 minutes) [6]. Moreover, complications like infections and dehiscence were reported with an incidence of 1.9 % in the present clinical evaluation.