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ORIGINAL ARTICLE

Wound healing of cutaneous substance losses based on infectious, inflammatory and traumatic skin disorders: The experience of a center

La cicatrisation des pertes de substance cutanée en fonction des pathologies cutanées infectieuses, inflammatoires et traumatiques : l'expérience d'un centre

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KEYWORDS

Wound healing;
Necrotizing fasciitis;
Hematoma;
Hidradenitis suppurativa;
Skin graft

Summary

Introduction. — There is no reference available concerning the standard healing time based on dermatological diseases responsible for cutaneous substance losses. The aim of our study was to assess the healing time after surgical debridement of necrotizing fasciitis (NF), hidradenitis suppurativa (HS) and skin necrosis due to trauma (SNT) based on multiples existing co-morbidities among these patients to provide surgeons with accurate scientific data in order to inform and educate patients and nurses who are practicing care under the supervision of the surgeon. **Materials and methods.** — This was a retrospective study. The primary endpoint was the time for complete wound healing, which was calculated from the time of the last surgical procedure to the complete wound healing corresponding to the time of complete reepithelialization, when daily dressings were no longer needed.

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MOTS CLÉS

Cicatrisation ;
Fasciite nécrosante ;
Hématome ;
Dradenitis suppurativa ;
Greffes de peau

Result. — A total of 107 patients were included. The mean time for complete wound healing was 64.94 ± 31.55 days in patients with NF, 45.70 ± 21.40 days in patients with SNT and 75.02 ± 26.41 days in patients with HS (SNT versus NF, $P = 0.004^{**}$ and SNT versus HS, $P < 0.0001^{**}$).

Conclusion. — The mean time for complete wound healing was 64.94 days in patients with NF, 45.70 days in patients with SNT, 75.02 days in patients with HS. This study can be considered as a referential based on the experience of a reference centre for these 3 pathologies (NF, HS, and SNT) whose aim is to inform plastic surgeons in order to anticipate the management or educate the patient.

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Résumé

Introduction. — Il n'y a pas de référence disponible concernant le temps de cicatrisation standard des maladies dermatologiques responsables des pertes de substance cutanées. L'objectif de notre étude était d'évaluer le temps de cicatrisation après débridement chirurgical de la fasciite nécrosante (NF), de l'hydradenitis suppurativa (HS) et de la nécrose cutanée due au traumatisme (NCT) sur la base de multiples comorbidités existantes chez ces patients dans le but de proposer aux chirurgiens des données scientifiques précises de manière à informer et éduquer notamment les patients et les infirmières qui pratiquent les soins locaux de suite sous la surveillance du chirurgien.

Matériels et méthodes. — Il s'agissait d'une étude rétrospective. Le critère d'évaluation primaire était le temps de cicatrisation complète de la plaie, calculé à partir du moment de la dernière intervention chirurgicale jusqu'à la cicatrisation complète de la plaie correspondant au moment de la réépithélialisation complète quand les pansements quotidiens n'étaient plus nécessaires.

Résultats. — Au total, 107 patients ont été inclus. Le temps moyen de cicatrisation complète des plaies était de $64,94 \pm 31,55$ jours chez les patients atteints de NF, de $45,70 \pm 21,40$ jours chez les patients atteints de NCT et de $75,02 \pm 26,41$ jours chez les patients atteints de HS (NCT contre NF, $p = 0,004^{**}$ et NCT contre HS, $p < 0,0001^{***}$).

Conclusion. — La durée moyenne de cicatrisation complète des plaies était de 64,94 jours chez les patients atteints de la NF, de 45,70 jours chez les patients atteints de NCT et de 75,02 jours chez les patients atteints de HS. Cette étude peut être considérée comme un référentielle basée sur l'expérience d'un centre de référence pour ces 3 pathologies (FN, HS, traumatologie) dont le but est d'informer les chirurgiens plasticiens pour anticiper la prise en charge ou éduquer le patient.

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Introduction

A loss of skin integrity may lead to a number of serious medical conditions that may ultimately be life-threatening. Many diseases may cause an acute skin loss and they may be classified based on their etiology as infectious disorders, including necrotizing fasciitis (NF) [1] and Fournier gangrene, traumatic disorders, including skin degloving and skin necrosis after hematoma and burns, inflammatory disorders, including hydradenitis suppurativa (HS) [2] and oncological disorders, including skin cancer. The treatment of these diseases usually requires trimming and debridement of unhealthy skin tissues [3].

For decades, in many departments, a cutaneous substance loss occurring after surgical debridement due to certain disorders such as NF, HS and skin necrosis due to trauma (SNT) is treated by secondary wound healing if there is no bone, vascular or tendon exposure, with the option of secondary reconstruction afterwards [4]. This currently allows a close clinical monitoring of affected areas and

ensuring that the main pathological etiology is completely treated with no sign of recurrence, and most importantly preparing the affected area for a secondary reconstruction, for example split-thickness skin graft, in order to achieve the better results in terms of functional capacity and esthetic outcomes. However, new treatment options have been developed, in particular through regenerative medicine (platelet-rich plasma, stem cells, adipose-derived stromal vascular fraction cells...). Therefore, references of standard healing times available for the entire scientific community are needed. These references may be useful for comparing treatments but also improving patient information and that of insurers with a view to improving compensation for victims.

To date, no study has reported comparatively the time taken to heal these 3 categories of wounds that plastic surgeons encounter in their practice. The aim of our study was to assess the healing time after surgical debridement of NF, HS and SNT based on multiples existing co-morbidities among these patients e.g. age, noninsulin-dependent dia-

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