

Antimicrobial dressing with silver in a patient with deep partial thickness second-degree burn.

A case report

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Case Report

Plastic Surgery



Objective: To describe a case report of deep partial thickness second degree burn and treatment with antimicrobial dressing with silver.

Introducción: Deep partial thickness burns extend into the deeper dermis and damage hair follicles and glandular tissue, these burns are usually painful when pressing and are usually wet. The silver in the dressing acts as an antimicrobial against bacterias absorbed into the dress.

Case report: 36-year-old male patient with deep partial thickness burn second degree burn affecting 2% of burned body surface on the left arm, required surgical wash and antimicrobial dressing with silver for 2 weeks.

Conclusion: The management of deep partial thickness burns must be early in order to prevent infection and other complications, the use of antimicrobial dressing with silver may improve the healing of the wound.

Keywords: Deep partial thickness burn, antimicrobial, dressing, silver.

The skin is an organ that covers the human body. It is made up of three layers: the epidermis, the outermost layer; the dermis, the middle layer; and the hypodermis, the deepest layer. The skin's most important function is to protect the interior of the body from ultraviolet radiation and physical and chemical agents, as well as to prevent the loss of water and extracellular fluid by forming a barrier between the external environment and the interior of the body. (1) Deep partial thickness burns extend into the deeper dermis and are characteristically different from superficial partial-thickness burns. Deep burns damage hair follicles and glandular tissue. They are painful to pressure only, almost always blister (easily unroofed), are wet or waxy dry and have variable mottled colorization from patchy cheesy white to red. Blanching with pressure may be sluggish. If infection is prevented and wounds are allowed to heal spontaneously without grafting, they will heal in two to nine weeks. These burns invariably cause hypertrophic scarring. If they involve a joint, joint dysfunction is expected, even with aggressive physical therapy. A deep partial-thickness burn that fails to heal in two weeks is functionally and cosmetically equivalent to a full-thickness burn. Differentiation from full-thickness burns is often difficult. (2)

Case report

A 36-year-old male patient began his current condition 3 hours prior to admission to the emergency

room, the patient reported a scald burn while making coffee when he slipped and spilled hot water on his left forearm, causing a deep partial thickness burn affecting approximately 2% of the burned body surface on the left forearm (Figure 1.1). It is evaluated by the plastic and reconstructive surgery service, the patient refers pain and wetness in the affected area, for which analgesics are administered, also surgical cleansing (Figure 1.2) and placement of an antimicrobial dressing with silver and fixation with nylon suture are performed (Figure 2). The dressing is changed weekly for 4 weeks, the patient progresses favorably with an adequate healing process.

Discussion

Silver, a topical antimicrobial, has been used for hundreds of years to heal wounds. In recent years, a variety of wound dressings containing elemental silver or a silver-releasing compound have been developed. The silver on the surface of the dressing comes into contact with the wound, where it exerts antimicrobial action. The silver in the structure of the dressing acts against bacteria absorbed into the dressing with wound exudate, but is also likely to diffuse to some extent into the wound. (3)

Conclusion

Deep partial thickness second-degree burn is an affection that needs to be treated properly in order

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Figure 1.1: Lateral view of affected forearm



Figure 1.2: Anterior view of forearm after surgical cleansing.



Figure 2. Forearm with antimicrobial dress with silver fixated with nylon suture.

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to prevent and avoid the risk of infection, antimicrobial with silver is useful to improve the healing of the skin tissue and to prevent potential infections. In conclusion the importance of early management is needed, in this case the use of antimicrobial with silver improved the healing of the skin and prevented potential infection.

Conflicts of interests

The author declares that they have no conflicts of interest related to the content of this article for publication in this journal.