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Hemidesmosome proteins in the skin: Structure, disorders and control

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Autoimmune skin disorders cause challenging clinical issues that have yet to be studied. Hemidesmosomes (HDs) are the crucial structural proteins in the skin (Fig. 1). When HDs are compromised by immune system, severe skin lesions such as epidermolysis bullosa simplex and bullous pemphigoid can occur. These lesions are usually controlled by immunosuppressive and anti-inflammatory treatments. However, the blisters which remain by the disease should be protected against infection and biofilms. Traditional medicine may open up ways for such cases. In this respect, maggot therapy (the use of larvae of *Lucilia sericata*) has provided satisfactory outcomes for wound treatment due to debridement of the biofilm, and improvement of regeneration. The extract (secretion and excretion) of the maggots has antimicrobial, anti-inflammatory and tissue regenerative properties. Thus, in-vivo and in-vitro investigations of the efficacy of maggots' extract for management of autoimmune blistering disorders are worth consideration.

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Topical corticosteroids for prevention of scar formation after superficial partial-thickness wounds

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Statement of the Problem: Superficial partial thickness wounds such as burns only need re-epithelialization to heal without a scar. However, after re-epithelialization, inflammation in the dermis may contribute to changes in skin architecture and scarring. Suppression of inflammation and fibroblast activation immediately after re-epithelialization may prevent scar formation.

Methodology: To assess the available data on use of corticosteroids for prevention of scars, we performed a review of literature seeking clinical studies using corticosteroids for scar prevention.

Findings: Corticosteroids have been used to prevent recurrence after keloid or hypertrophic scar excision with variable success. We did not find any randomized trial of corticosteroids for the prevention of scar; however, a recent case series, comparing patients who received clobetasol+tretinoin with patients who did not receive any medication after re-epithelialization of superficial wounds, showed that the regimen can reduce the risk of hypertrophic scars to one third without any major complication. This study also showed that hypertrophic scars occur after superficial wounds only in patient who have deep erythema after re-epithelialization.

Conclusion & Significance: Hypertrophic scars are one of the major complications of laser surgeries and a common morbidity after burns. Topical highly-potent corticosteroids±tretinoin may decrease the incidence of scar formation in patients with superficial wounds. Effective use of corticosteroids just after re-epithelialization is recommended, if there is significant erythema and inflammation at the site.

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