

Research Compact

Tags

Octenilin, Wound

Title

The Antiseptic Octenidine Inhibits Langerhans Cell Activation and Modulates Cytokine Expression upon Superficial Wounding with Tape Stripping

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Source

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Aim of the study

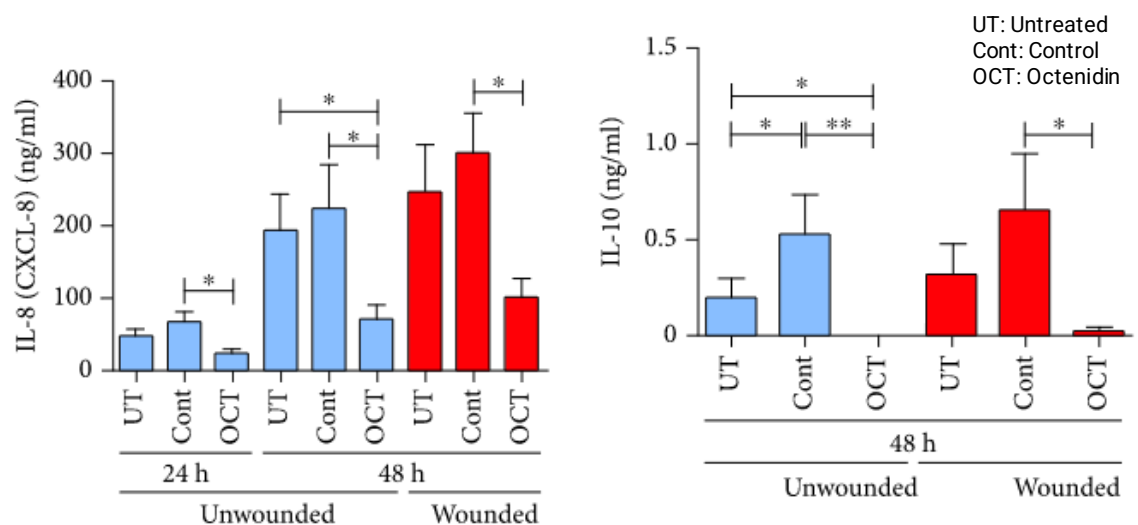
Agents for wound treatment should ideally have antimicrobial efficacy without negatively influencing human cells or wound healing. Octenidine dihydrochloride (OCT) is a widely used antiseptic, but its effect on components of wound healing remains unclear. This study investigates the influence of OCT on epidermal Langerhans cells (LCs) and cytokine secretion in a superficial wound model.

Methods

Skin specimens were sampled from healthy patients and superficial wounds were generated by tape-stripping. Wounds were either treated with octenilin wound gel, control gel or left untreated. Skin condition was determined using histology, immunohistochemistry and immunofluorescence. Cytokine levels were detected in an antibody-dependent ELISA assays.

Results

OCT did neither change the condition of wounded/unwounded skin nor enhances apoptosis within 48 hours. It furthermore preserves the morphology of LCs and prevents emigration and maturation of LCs in wounded skin. OCT also inhibits the secretion of several cytokines on protein level, which suggest either direct or indirect anti-inflammatory properties of OCT.



Conclusion

Octenidine not only provides antimicrobial efficacy but also modulates inflammatory-response and therefore might positively contribute to wound healing.