Effect of Gentian Violet, Corticosteroid and Tar Preparations in *Staphylococcus-aureus*-Colonized Atopic Eczema

**Abstract:**

Background: In atopic eczema (AE), skin colonization with *Staphylococcus aureus* plays a possible role in the pathophysiology of the disease.

Methods: Thirty-eight patients with AE were screened for their cutaneous colonization with *S. aureus*. The antibacterial and clinical efficacy of topical therapy with the antiseptic dye gentian violet, a potent glucocorticosteroid or a tar solution (liquor carbonis detergens) was evaluated in vivo in 21 patients with a density of >10^4 CFU/cm^2^ and in vitro. Skin sites were treated twice daily for 4 days with the active drug or a corresponding control. Quantification of *S. aureus* was done daily during therapy as well as 3 days thereafter. The severity of the lesions was rated by a regional SCORAD. Results: In gentian-violet-treated skin, bacterial density decreased significantly in lesional (p < 0.001) and unaffected skin (p < 0.001). Bacterial densities did not decrease during therapy with glucocorticosteroid or liquor carbonis detergens but dropped afterwards. All therapeutics reduced the severity score, reduction being greatest for the glucocorticosteroid and lowest for liquor carbonis detergens. In vitro, a high antibactericidal efficacy was demonstrated only for gentian violet.

Conclusions: Antibacterial therapy with gentian violet not only reduces *S. aureus* dramatically, but also reduces the severity of the eczema. Reduction of *S. aureus* after therapy with glucocorticosteroids and LCD seems to be secondary to improvement of the skin condition.