

[Skin colonization by superantigen-producing Staphylococcus aureus in Egyptian patients with atopic dermatitis and its relation to disease severity and serum interleukin-4 level.](#)

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Source

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Abstract

OBJECTIVE:

The objective of the current study was to detect Staphylococcus aureus colonization and the presence of superantigen in atopic dermatitis (AD) in Egyptian patients, and to determine its effect on disease severity and serum interleukin (IL)-4 levels.

METHODS:

Swabs were taken from the skin of 30 patients with AD. S. aureus isolates were screened for the presence of genes of exotoxins with superantigen properties by multiplex PCR. Serum IL-4 was determined by ELISA. The rate of S. aureus colonization and the presence of superantigen were correlated with disease severity and IL-4 level.

RESULTS:

Twenty-six of 30 patients (87%) were colonized by S. aureus, and 14 of the 26 (54%) patients were colonized with toxigenic strains. The most frequent superantigen gene present in S. aureus isolates was that coding for staphylococcal enterotoxin B (SEB), followed by both staphylococcal enterotoxin C (SEC) and toxic shock syndrome toxin-1 (TSST-1) genes. The



mean 'severity scoring in AD' (SCORAD) score of AD patients colonized with *S. aureus* harboring superantigen genes (74 ± 8) was significantly higher than that in those colonized with *S. aureus* isolates without superantigen genes (56 ± 6) ($p < 0.001$). Serum IL-4 levels followed the same pattern.

CONCLUSIONS:

S. aureus may play an important role as an aggravating factor in AD patients. Reducing the colonization of atopic skin by *S. aureus* is therefore the best way to reduce superantigen-induced allergic skin inflammation.

11- [Epilepsy Behav.](#) 2011 Dec;22(4):671-7. Epub 2011 Oct 26.