



INFLAMMATORY SKIN DISEASES (OTHER THAN ATOPIC DERMATITIS & PSORIASIS)

TH-17 CELLS IN HS: A SPOTLIGHT ON IL-26

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Introduction: IL-26 is a signature Th-17 cytokine that has been described like a pro-inflammatory and antimicrobial mediator. To date, IL-26 has already been reported in several immune-mediated inflammatory diseases, but its involvement in inflammatory skin disorders remains to clarify.

Objective: In this study, we investigated the role of IL-26 in hidradenitis suppurativa (HS), highlighting its antimicrobial activity.

Materials and Methods: IL-26, pro-inflammatory cytokines and antimicrobial peptides were assessed through gene expression and protein analysis at skin and circulating levels. Ex vivo HS skin organ cultures, also with IL-26 antibody treatment, were performed to determine inflammatory activity. PBMC were isolated from HS subjects and silenced or not with IL-26 siRNA to perform minimum inhibitory concentration and cytotoxic activity on *S. aureus*.

Results: Firstly, IL-26 was found dramatically expressed in plasma of HS patients respect to healthy controls (HC) whereas slightly increased in HS lesional skin. Interestingly, IL-26 neutralization modulated Th-17 immune-mediated response and antimicrobial peptide production in HS. Moreover, bactericidal and cytotoxic activities vs *S. aureus* were lower in HS subjects compared to HC ones. In particular, these activities were abolished when HC PBMC were transfected with IL-26 siRNA. Conversely, the transfection did not affect the killing activity of HS PBMC, supporting the idea that IL-26 cargo lacks of efficacy in HS.

Conclusions: These findings suggest that cutaneous antimicrobial incompetence in HS may be related to IL-26. Finally, IL-26 could represent a potential target of therapy as its neutralization reduce systemic inflammation without promoting infection risk.

