PSORIASIS

THE ROLE OF KEY SIGNATURE PSORIASIS CYTOKINES IN ADIPOSE TISSUE INFLAMMATION

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Introduction: Psoriasis is a chronic inflammatory skin disease characterized by complex pathogenic mechanisms, involving multiple cytokines, chemokines and other pro-inflammatory mediators. Psoriasis is associated with several comorbidities including obesity and type II diabetes. To date, there are no published reports assessing the effects of psoriasis-signature cytokines on adipose tissue-derived mediators and viceversa.

Objective: In this study, we seek to determine:(i) the pathogenic role of psoriasis-signature cytokines in the development of adipocyte-related disorders, and (ii) the role of adipose tissue-derived mediators in triggering and/or amplifying skin inflammation.

Materials and Methods: Thus, we treated whole human adipose tissue with IL-17 or TNF-a alone, and with the combination of both cytokines, investigating their effects on expression (RT-PCR) and production (ELISA) of adipokines and inflammatory factors (CCL20, IL-23, IL-8 and IL-6). Subsequently, we performed ex vivo skin organ culture assays, incubating healthy skin biopsy with the collected supernatants of the above-mentioned adipose tissue experiments.

Results: Firstly, we observed that IL-17 and TNF-a induced an additive or synergistic effect on adipose tissue gene and protein expression. Additionally, the adipose tissue-derived mediators promote inflammation in normal skin organ cultures.

Conclusions: These data could support the hypothesis that the adipose tissue acts as source of pro-inflammatory mediators playing a relevant role in the pathogenesis of psoriasis.