

PSORIASIS

BAFF AND BAFF RECEPTORS EXPRESSION IN PSORIASIS

Sherihan H. Allam⁽¹⁾ - Abeer M. Abdelaziz⁽¹⁾ - Nora Darwish⁽¹⁾ - Magdy Elsohaby⁽¹⁾ - Wilma Bergfeld⁽²⁾

Mansoura University, Dermatology, Mansoura, Egypt⁽¹⁾ - Cleveland Clinic, Dermatology, Cleveland, United States⁽²⁾

Background: B-cell activating factor; a member of tumor necrosis factor family (BAFF), plays important role in B-cell maturation, differentiation, and survival by binding to BAFF receptors: BAFF-R, transmembrane activator and calcium modulator and cyclophilin ligand interactor (TACI) and B-cell maturation antigen (BCMA). BAFF enhances T cell activation and proliferation by binding to BAFF-R and TACI receptors. Few studies reported that serum BAFF levels were significantly increased in psoriasis patients. These results suggest that BAFF may be involved in the pathogenesis of psoriasis through T cell and may be B cell activation.

Objective: To investigate the immuno-histochemical expression of BAFF and its receptors in psoriasis.

Material and Methods: Paraffin-embedded skin specimens from thirty patients with plaque psoriasis and nine healthy controls selected from Dermatology department, Cleveland Clinic, USA; were immunohistochemically (IHC) stained for BAFF, BAFF-R and TACI antibodies. All slides were digitalized using an scan scope and then photoanalyzed on image scope using the membrane and nuclear staining algorithms that measure the percentages of positive stained cells and score the intensity of staining as the percentages of weak 1+, moderate 2+ and high 3+ stained cells; which are color-coded (yellow = 1+, orange = 2+, red = 3+).

Results: The skin specimens from psoriasis patients demonstrated positive IHC staining reactions for BAFF, BAFF-R, and TACI of lymphocytes infiltrating the epidermis and dermis. The control normal skin specimens demonstrated positive IHC staining reactions of scattered cells in the upper dermis and epidermis. The percentages of positive stained cells for membrane and nuclear BAFF, BAFF-R and TACI were significantly higher in psoriasis skin than in the control normal skin.

Conclusion: These results suggest that BAFF plays a role in the pathogenesis of psoriasis. Moreover, this may suggest that anti-BAFF therapy may be a new class of targeted



therapeutic potential for treatment of psoriasis.

