



PIGMENTATION

CXCL10 AS CLINICAL MARKER OF VITILIGO? A PROSPECTIVE COHORT STUDY IN 300 PATIENTS

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Background: Vitiligo is an autoimmune skin disease characterized by various degrees of depigmentation. Several cytokines and chemokines are reported as plausible biomarkers in vitiligo.

Objective: To determine the potential biomarkers predicting disease activity and severity in progressive vitiligo with different clinical signs of trichome sign, confetti-like depigmentation and Koebner phenomenon.

Methods: A prospective study was conducted at the Department of Dermatology at Huashan Hospital affiliated to Fudan University between January, 2017, and May, 2018. Three hundred patients with vitiligo were enrolled, including 215 individuals with non-segmental vitiligo in progressive stage, 35 with segmental vitiligo in progressive stage and 50 with non-segmental vitiligo in stable stage. Peripheral blood and suction blisters were analyzed by Luminex, Flow cytometry, PCR, Immunohistochemistry to compare included chemokines and cytokines. Digital Photographs were recorded to evaluate the association with the biomarkers and disease activity.

Results: CXCL10 serum levels were significantly increased in patients with progressive non-segmental vitiligo and strongly correlated with VASI and VETF. In stable non-segmental vitiligo patients, especially those received marked repigmentation, the serum level of CXCL10 was significantly lower than those in progressive stage. ROC analysis showed CXCL10 as the most sensitive and specific marker for disease activity. Progressive vitiligo patients presenting confetti-like depigmentation and trichome sign together had higher level of CXCL10 compared with those presenting single clinical sign.

Conclusion: This report demonstrates the possible use of CXCL10 as a biomarker for disease activity and severity in vitiligo. Our data suggest that CXCL10 could play a substantial role in the autoimmune mechanism of vitiligo and may be a good biomarker for predicting disease activity.

