# **Cross talk between oxidative stress and inflammation in alopecia areata**

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**Abstract**

**Background:** Although the etiopathogenesis of alopecia areata (AA) is still unclear, inflammation, oxidative stress, and subsequent DNA damage might be considered role players in disease development.

**Aim:** We aimed at exploring the potential link between oxidative DNA damage and inflammation in AA patients through measuring 8-hydroxy deoxyguanosine (8-OHdG), high mobility group box 1 protein (HMGB1), and one of the inflammatory mediators, C-reactive protein (CRP).

**Methods:** A total of 79 subjects (49 AA patients in addition to 30 apparently healthy control subjects) were tested for serum levels of 8-OHdG, HMBG1, and CRP.

**Results:** Compared with the control group, serum 8-OHdG, HMBG1, and CRP levels were significantly elevated in the studied patients group (0.031, <0.001, and <0.001, respectively). Moreover, logistic regression analysis revealed that disease course, serum levels of 8-OHdG, and HMBG1 were considered independent predictors for AA severity in both uni- and multivariable analyses.

**Conclusion:** Our results suggest a possible role of oxidative stress together with proinflammatory biomarkers in development of AA and their benefit in predicting a severe form of the disease.

**K E Y W O R D S**

8-OHdG, Alopecia areata, CRP, HMGB1, Oxidative stress