



URTICARIA, ANGIOEDEMA

## CHRONIC SPONTANEOUS URTICARIA: AUTOIMMUNE SUBTYPES AND IMMUNOLOGIC FEATURES

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**Introduction:** The 2nd-generation H1-antihistamines are recommended as first-line treatment of chronic spontaneous urticaria (CSU). However, during our clinical work, some patients appear to be H1-antihistamine-refractory, while others respond quite well to H1-antihistamines.

**Objective:** The aim of this study is to figure out what makes the different respond to H1-antihistamines from immunological perspective. And try to investigate if the levels of specific autoantibodies or biomarkers such as IgG-anti-FcεRI, total-IgE, TgAb, TPOAb or D-dimer are associated with the therapeutic effect.

**Materials and Methods:** 100 CSU patients treated with H1-antihistamines at our dermatology center in 2018 were included in our study. 64 of them were refractory to H1-antihistamines, and 36 of them responded well to H1-antihistamines. We had cloned a recombinant FcεRIα-chain to test the IgG-anti-FcεRI of these patients using Western blot. And we also conducted autologous serum skin test (ASST) to all of the patients. The levels of biomarkers such as total-IgE, TgAb, TPOAb or D-dimer were also examined.

**Results:** The autoantibody (IgG-anti-FcεRI) titers in refractory CSU patients are significantly higher than that of the non-refractory group ( $P \leq 0.05$ ). 59.3% (38/64) of the refractory CSU patients were ASST-positive, which are significantly higher than the non-refractory group ( $P \leq 0.05$ ). The levels of TgAb and TPOAb were higher in the refractory subgroup compared to the non-refractory group ( $P \leq 0.05$ ), while the levels of total-IgE and D-dimer showed no difference.

**Conclusions:** Autoreactivity may play an important role in the resistance of 2nd-generation H1-antihistamines. The presence of IgG-anti-FcεRI in refractory CSU patients indicates that the type IIb autoimmunity contributes to the development of their diseases which is correlated to the poorer therapeutic effect of H1-antihistamines.

