

## LETTER TO THE EDITOR

## HLA in patients with chronic spontaneous urticaria who are positive for anti-thyroid antibodies

### Editor

We report the results of a cross-sectional study that had the objective of investigating the antigen expression of HLA classes I and II in patients with chronic spontaneous urticaria (CSU), in terms of the presence or absence of anti-thyroperoxidase (anti-TPO) antibodies. The participants were Brazilians of both genders, 18 years of age or older, who presented CSU for more than 6 weeks. The study was coordinated by the Discipline of Allergy and Clinical Immunopathology, of the Marília Medical School, in the state of São Paulo, Brazil. DNA was extracted from these patients' blood and MHC was assayed by means of the polymerase chain reaction and a laboratory test for oligonucleotide hybridization using a single-filament probe. The patients were compared in terms of the presence or absence of anti-TPO antibodies. The allele distribution results were analysed by calculating odds ratios (OR) and 95% confidence intervals (95% CI). A detailed history and physical examination was obtained from each patient, with emphasis on general use of medications and dietary characteristics. All the patients signed an informed consent and the study was conducted in accordance with the recommendations of the Declaration of Helsinki.

Forty-nine adult patients with CSU were assessed. Their mean age ( $\pm$  SD) was 42.7 years ( $\pm$  14.8), ranging from 18 to 73 years, of whom 33 (67%) were women. Twelve patients (24.5%) were positive for anti-TPO antibodies and, among these, six (50%) also presented a diagnosis of hypothyroidism. We observed that for the loci studied (A, B and DRB1), there was greater prevalence of HLA B\* 14 in patients with CSU who were positive for anti-TPO, with OR of 10.43 (95% CI: 1.03–105.5). For the other alleles analysed, no statistical differences in prevalence were found between the groups with and without the presence of anti-TPO antibodies (as all the confidence intervals included the value of one).

In approximately 45% of cases, the aetiology of CSU is associated with autoantibodies<sup>1</sup> and anti-thyroid antibodies are often detected in patients with chronic urticaria.<sup>2</sup> Although it is known that several autoimmune diseases have associations with certain HLA alleles, there are few studies correlating the antigen expression of MHC with chronic urticaria.<sup>3–7</sup> From our study, we could see that there was greater prevalence of HLA B\* 14 in patients

who presented CSU together with positivity for anti-TPO, consisting in this case of a class I MHC molecule, which is believed to be more related to presentation of endogenous antigens. A recent study<sup>8</sup> demonstrated that there was an aetiopathogenic correlation between thyroid disorders and CSU. This study proved that IgE autoantibodies capable of reacting against TPO exist, thus producing a so-called 'auto-allergic' reaction. Also in a recent article,<sup>9</sup> it was demonstrated that patients with chronic autoimmune urticaria presented significantly lower levels of regulatory T cells in their peripheral blood, which may have contributed towards the pathological process of autoimmune urticaria. The genetic polymorphism of HLA would possibly correlate with variations in the binding capacity of specific antigens in the MHC cleft, and this could affect the T-cell education process in the thymus.

It has to be noted that some degree of caution is needed in interpreting the results from this study, starting with the large amplitude of the 95% CI that was calculated in relation to the OR (10.43) of HLA B\*. This 95% CI was 1.03–105.5 and it may have resulted from the small sample size used in this study. It is also known that the genes that code for HLA molecules present very great polymorphism and that this polymorphism may vary between different study populations.

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Z. Calamita,<sup>†</sup> A. Bronhara Pelá Calamita<sup>‡</sup>

<sup>†</sup>Division of Allergy and Clinical Immunology of Marília Medical School (FAMEMA) – Marília, São Paulo, Brazil

<sup>‡</sup>Division of Dermatology of Marília Medical School (FAMEMA) – Marília, São Paulo, Brazil

\*Correspondence: Z. Calamita. E-mail: calamita@unimedmarilia.com.br

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