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Investigating The Occurrence of Allergic Diseases in Hungarian Patients With Hereditary Angioedema Due To C1-Inhibitor-Deficiency

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Rationale: Submucosal and/or subcutaneous angioedema in C1-INH-HAE is mediated by bradykinin. In allergy, during the degranulation of mast cells, heparin is released. Heparin can activate the plasma kinin-kallikrein system, leading to bradykinin generation. This observation suggests a connection between HAE and allergic diseases.

Methods: To assess the occurrence of allergic diseases in the Hungarian C1-INH-HAE population we compiled a questionnaire of 58-112 questions – filled out either online or on paper – about allergic and HAE symptoms, the connection between HAE and allergic symptoms and general data.

Results: 107 patients (65 female, 42 male) responded. Mean age was 46 years, 51.4% having allergic diseases. Mean duration of allergy was 23.7 years. 29.3% reported pollen allergy and 89.7% among them felt that their allergic symptoms were more frequent from March to October. 25.3% reported food allergy, caused mostly by nuts or dairy products, resulting in bloating, abdominal pain or diarrhoea. 23.8% experienced mostly abdominal HAE attacks after consuming food, specifically onions, nuts or dairy products. 16.2% reported drug allergy and 11.4% experienced an HAE attack after taking medicine. Drug allergy was most frequently caused by antibiotics and usually occurred as rash or itching. HAE attacks were mostly abdominal and caused by antibiotics, ACE-inhibitors or oral contraceptives. After the diagnosis of HAE, 6 patients experienced improvement of their allergic symptoms, 43 remained the same, but none of them experienced worsening. In 6.1% of the allergic patients, an HAE attack worsened the allergic symptoms, while 17% of the allergic patients experienced HAE attack provoked by contact with the allergen.

Conclusions: While 51.4% of our patients has allergy, Eurostat's newest data states that in Hungary the prevalence of allergic diseases is 19.3%. This suggests a connection between the two diseases, but further molecular studies are needed.