

Is cholinergic urticaria a seasonal disorder in some patients?

Sir,

Cholinergic urticaria and pruritus are forms of a physical urticaria whose symptoms are primarily induced by heat.^[1] The lesions usually appear as itch, often accompanied by small, punctate, pruritic wheals 1–5 mm in diameter with a surrounding flare. Cholinergic urticaria is not recognized to be a seasonal disorder. We studied our records to verify our impression that many patients have the disease in winter.

Records of all patients with cholinergic urticaria and pruritus seen by us in one calendar year between November 2008 and November 2009 at the All India Institute of Medical Sciences, New Delhi, were analyzed. The mean daily temperature in New Delhi ranges from 29 to 33°C from April to September and from 14 to 26°C from October to March.^[2]

The diagnosis was based on a history of itch and/or wheals triggered by cholinergic stimuli (exercise, heat exposure, emotional stress and eating spicy food). An exercise test was performed in all patients; antihistamines were stopped at least 2 days before the test.

There were 23 males and one female, whose ages ranged from 16 to 32 years. The duration of disease ranged from 2 months to 10 years. Thirteen patients complained of itch and wheals after cholinergic stimulus, while 11 patients complained of pruritus

alone. Symptoms lasted for a few minutes to half an hour. Wheals and/or pruritus were triggered by exercise in 20 patients, emotional stress in four, hot baths and showers in three, eating spicy food in six and standing in the sun, exposure to hot air blowers, wearing warm clothes and fever in 19 patients. Fourteen patients were relieved of their symptoms when they stopped exertion and moved out of a hot to a cool place. One patient had associated non-steroidal anti-inflammatory drug (NSAID)-induced urticaria, while one had associated episodes of angioedema.

Fifteen patients had the disease in winter alone. The onset was between the months of October and December, and the disease continued till the months of January to March. Eight patients had disease throughout the year, three of whom complained of an increased number of episodes and more severe pruritus in winter.

All patients underwent an exercise test at presentation (exercising on the spot in a warm room till they felt hot.) Eleven of 23 patients had a positive exercise test: four patients developed small itchy wheals and seven patients developed pruritus. A cold stimulus was applied using an insulated metal cylinder filled with ice with the exposed base of the cylinder placed on the forearm for 2 min.^[3] None of the patients developed itching or wheals at the test site.

The clinical presentation and response to the exercise tests in our patients were stereotypical. Unexpectedly, many patients presented in winter, and many stated that the disease occurred exclusively in this season. In those who had cholinergic symptoms throughout the year, the condition was significantly worse in winter.

A previous report described nine patients who developed cholinergic urticaria exclusively in winter.^[4] However, this seasonality of the condition appears to have gone unnoticed in other accounts of the disease,^[5] while Hirschmann *et al.*^[6] noted a worsening in summer in 60% of their patients. Our data suggests that the vast majority have cholinergic urticaria only in winter, although the disease may persist in a milder form during the rest of the year in some.

Urticaria due to two different physical stimuli operating independently in the same patient has been described,^[7,8] as also anaphylaxis developing when two stimuli are present together.^[9] However, seasonal cholinergic

urticaria does not appear to fit into either group. Cold stimuli by themselves did not provoke itching or wheals. On the contrary, when symptoms began, they could be quickly relieved by exposure to cold.

An increase in core body temperature is stated to be the trigger for cholinergic urticaria,^[1] but our patients were unaffected by exercise and other activity when this was undertaken in the summer. It appears that two conditions are required to provoke seasonal cholinergic urticaria: first, a perception of heat (provoked by various cholinergic stimuli) and second, a low ambient temperature. Exploration of the relationship between these factors may shed light on the pathogenesis of this variant of cholinergic urticaria.

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