

Exercise-Induced Anaphylaxis: Inhibition with Sodium Bicarbonate

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Dear Sir,

We would like to describe a finding which we think may be important to the knowledge and perhaps in the management of the exercise-induced anaphylaxis syndrome (EIA) (2, 3).

In the past 3 years we have had the opportunity of studying two patients who fulfilled the diagnostic criteria of EIA. Both patients, aged 22 and 17 years, had pruritus, urticaria with large-sized wheals, angioedema, and bronchospasm immediately after exercise. In one patient this was accompanied by dysphonia and difficulty in swallowing. The symptoms were only produced by the exercise stimulus, and no relation was found with food ingestion prior to or after exercise.

In the second patient we performed several provocation tests in the laboratory, reproducing the symptoms described, and observed a decrease in VEMS (32%), FEV 0.5, and PEF, with a flow-volume loop suggesting upper airway obstruction. The serially measured plasma histamine was not increased above baseline. The patient was provoked twice again, with a 2-week interval, with the previous administration (single blind) of 3 g sodium bicarbonate (p.o.) 10 min before exercise, or placebo (lactose). The CO_3HNa administration produced no symptoms and the spirometries performed were normal. With the placebo, there was a reproduction of the symptoms and airway obstruction. To the first patient, a professional bicyclist who had refused provocation, we recommended the ingestion of CO_3HNa (3 g) prior to exercise, and he was then able to exercise without showing any symptoms.

In the last year we have attempted to inhibit

the symptoms in patients with cholinergic urticaria, an EIA-related disease, but they have shown no improvement.

We call attention to the significance of this finding in the understanding of the pathogenesis and management of the EIA syndrome. This treatment approach in exercise-induced urticaria was described about 50 years ago by Jiménez Díaz (1). The mechanisms of this is unknown.

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