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ALLERGY, ASTHMA & CLINICAL IMMUNOLOGY

CASE REPORT

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Food dependant exercise induced anaphylaxis a retrospective study from 2 allergy clinics in Colombo, Sri Lanka

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Abstract

The aetiology of anaphylaxis ranges from food, insect venom, drugs and various chemicals. Some individuals do not develop anaphylaxis with the offending agent unless ingestion is related temporally to physical exertion, namely food dependent exercise induced anaphylaxis (FDEIA). The foods implicated are wheat, soya, peanut, milk and sea food. A retrospective study on patients with FDEIA from two Allergy clinics in Sri Lanka from 2011 to 2015 is reported. Patients were selected who fulfilled the following criteria: clinical diagnosis of anaphylaxis according to the World Allergy Organization (WAO) criteria, where the onset of symptoms was during exertion, within 4 h of ingesting a food, the ability to eat the implicated food independent of exercise, or exercise safely, if the food was not ingested in the preceding 4 h and an in vitro (ImmunoCap serum IgE to the food) or in vivo (skin prick test) test indicating evidence of sensitivity to the food. There were 19 patients (12 males: 7 females). The ages ranged from 9 to 45 (mean 22.9, median 19 years). Eight patients (42.1%) were in the 9–16 age group. Those below 16 years had a male:female ratio of 3:5, while for those above 16 years it was 9:2. Wheat was the only food implicated in FDEIA in all patients and was confirmed by skin prick testing, or by ImmunoCap specific IgE to wheat or ω − 5 gliadin. All patients had urticaria, while 5/19 (26.3%) had angioedema of the lips. Fifteen patients (78.9%) had shortness of breath or wheezing, while 8 (42.1%) had lost consciousness. Nine patients (47. 3%) had hypotension. Fourteen (73.6%) of our patients had severe reactions, with loss of consciousness or hypotension, while 5 (26.3%) had symptoms related to the gastrointestinal tract. One patient developed anaphylaxis on two occasions following inhalation of ganja, a local cannabis derivative along with the ingestion of wheat and exertion. Wheat is the main food implicated in FDEIA in Sri Lanka. A local cannabis derivative, ganja has been implicated as a cofactor for the first time.

Keywords: Anaphylaxis, FDEIA, Wheat, Food allergy, Exercise

Background

Anaphylaxis is a potentially fatal, systemic hypersensitivity reaction [1]. The aetiology of anaphylaxis ranges from food, insect venom, drugs and various chemicals. In some cases of anaphylaxis, the individual does not develop anaphylaxis with the offending agent unless ingestion is related temporally to physical exertion [2]. The initial case report described a patient who developed anaphylaxis during exertion after ingesting shellfish [3]. This condition was termed food dependent exercise induced anaphylaxis (FDEIA) [4]. A number of food items have been implicated in FDEIA such as wheat, soya, peanut, milk and sea food [5]. Anaphylaxis following exertion, without concomitant intake of food was also described, termed exercise induced anaphylaxis (EIA) [6]. EIA constitutes 5–15% of all cases of anaphylaxis [5]. A third or half of EIA are due to FDEIA [2].

In FDEIA, anaphylaxis develops only if a specific food, or in some instances, any food, is ingested up to 4 h before exertion. In some instances, ingestion of the food may be after exertion [2]. Ingesting the food without

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