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EDITORIAL

Anaphylaxis: The great challenge

Anaphylaxis has been defined as a serious allergic reaction of sudden onset and with potentially fatal consequences.¹ This definition of anaphylaxis, in the same way as other definitions, has its advantages and inconveniences. The main advantage is its practical clinical perspective, while the inconvenience is that the definition views anaphylaxis as a clinical condition of allergic origin.

The signs and symptoms that arise during anaphylaxis suggest the massive release of mediators from mast cells and basophils, and this can occur through both IgE-mediated immunological mechanisms and by non-immunological mechanisms such as complement activation or enzyme inhibition, among others. Some authors prefer to confine the term “anaphylaxis” to those situations characterized by an IgE-mediated mechanism, and speak of “anaphylactoid reactions” when there is no background immunological basis. Nevertheless, the truth is that both “anaphylaxis” and “anaphylactoid reactions” are clinically indistinguishable and evolve and respond to treatment in the same way.

The lack of international consensus regarding the definition of anaphylaxis in turn gives rise to conflicting epidemiological data and to potentially inadequate therapeutic approaches.

Anaphylaxis is diagnosed from the sudden development of skin symptoms (urticaria and/or angioedema) associated to respiratory manifestations (stridor, dyspnea or wheezing), gastrointestinal symptoms (abdominal colic pain, vomiting) and/or hypotension. In order to correctly diagnose anaphylaxis, at least two organ systems must be affected simultaneously, or alternatively circulatory collapse must be evidenced after exposure to a potential allergen. Isolated angioedema, no matter how intense, in the absence of breathing problems, gastrointestinal alterations or hypotension, should not be regarded (or treated) as anaphylaxis. In contrast, generalized urticaria associated to bronchospasm, no matter how mild the latter may be, should be diagnosed as anaphylaxis and treated as such – in view of the potential danger of progressive worsening, with fatal consequences for the patient.

Adrenalin is the treatment of choice in cases of anaphylaxis² – the intramuscular route being the best option in both children³ and adults,⁴ and the preferred

injection site is the external lateral surface of the thigh.⁴

The present issue of *Allergologia et Immunopathologia* describes the epidemiological data compiled by Latin American allergologists in the OLASA (Online Latin American Survey of Anaphylaxis) database referred to cases of anaphylaxis in children and adolescents.⁵ A questionnaire was completed with the information supplied by the patients or their parents, and from the reports of the emergency services that had attended the patients, i.e., the diagnosis of anaphylaxis was established by the emergency care personnel – not by the allergologist entering the information in the database. Among the results obtained, mention should be made of the fact that only 45.4% of the patients received treatment within the first 60 min after the start of the reaction, 44.1% after between 1 and 6 h, and the rest more than 6 h after reaction onset. On the other hand, only 34.6% of the patients diagnosed with anaphylaxis received adrenalin as treatment, and administration was described as corresponding to either the intramuscular or subcutaneous route, without offering data referred to each individual administration route. While not expressly mentioned in the study, it is deduced that the mortality rate among the 191 registered children and adolescents with anaphylaxis was 0%.

The absence of deaths in the series, the delay in providing treatment (in over 50% of the patients), and the inadequacy of such treatment (only 34.6% received adrenalin, and not all via the intramuscular route) questions whether all these patients really presented anaphylaxis, and alerts us to the need to adequately train non-specialized healthcare personnel in the recognition, correct diagnosis and adequate treatment of anaphylaxis, since the rapidity and seriousness of the clinical condition requires the *in situ* adoption of treatment decisions by personnel not especially trained to deal with such situations. In this context, practical clinical guides are needed for the diagnosis and treatment of anaphylaxis.

In Spain a situation similar to that found in Latin America has been observed, for even in Emergency Departments belonging to high technology hospital centers only 52% of the patients diagnosed with anaphylaxis were treated with intramuscular adrenalin (unpublished data). Accordingly, in 2011, the Spanish Society of Allergology and

Clinical Immunology (*Sociedad Española de Alergología e Inmunología Clínica*, SEAIC), the Spanish Society of Pediatric Allergology and Clinical Immunology (*Sociedad Española de Inmunología Clínica y Alergología Pediátrica*, SEICAP), the Spanish Society of Emergency Care Medicine (*Sociedad Española de Medicina de Emergencias*, SEMES) and the Spanish Society of Pediatric Emergency Care (*Sociedad Española de Urgencias Pediátricas*, SEUP) jointly developed the Anaphylaxis Intervention Guide (*Guía de Actuación en anafilaxia*, GALAXIA),¹ offering a practical summary of the diagnostic and therapeutic steps indicated in the case of patients (children or adults) with suspected anaphylaxis. This guide will be distributed among general practitioners, primary care pediatricians and emergency care teams, and evaluation of the resulting improvements obtained with respect to the management of anaphylactic patients will have to be evaluated in a couple of years time.

Anaphylaxis, as a condition of rapid onset and with potentially fatal consequences, is not the domain of any concrete medical specialty, and diagnostic and treatment guides developed by consensus among all the professionals implicated in the management of this disorder are essential for the adequate control and prevention of anaphylaxis – avoiding situations such as that described in the above mentioned study,⁵ in which barely one-quarter of the patients

discharged from hospital emergency care following anaphylaxis received instructions on how to prevent future similar episodes, seek help from a specialized service, or receive and be able to use adrenalin self-injecting devices.

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Marcel Ibero-Iborra
Allergy Unit, Terrassa Hospital, Barcelona, Spain
E-mail address: marcel.iber@hotmail.com