Anaphylaxis Management in the GALAXIA 2022 Update

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Anaphylaxis is a severe, potentially life-threatening hypersensitivity reaction whose incidence has increased in recent years [1]. GALAXIA 2022 is an expert consensus–based Spanish anaphylaxis guideline. Its third update is in web app format [2], a user-friendly approach that facilitates use of the guideline by health professionals involved in anaphylaxis management. It is organized into 9 chapters and now incorporates new features, such as the patient's perspective and the involvement of society as a stakeholder (Table).

We would like to highlight various aspects of GALAXIA 2022, including new areas, as well as essential practical and basic information about anaphylaxis.

Diagnosis of anaphylaxis is based exclusively on clinical findings and should be suspected in rapid-onset reactions with skin and/or mucosal involvement accompanied by respiratory and/or circulatory compromise. The skin is involved in more than 80% of cases, although some types do not involve the skin, leading to possible misdiagnosis. In such cases, prior exposure to an allergen may be key to diagnosis. The severity of anaphylaxis is related to the rapidity of symptom progression, antigen type and route of entry, and organs affected [3]. Tryptase is currently the best and most widespread biomarker used for confirmation of the diagnosis [4].

Table. Take-Home Messages.

1. Intramuscular adrenaline is the first-line treatment in anaphylaxis.
2. Serum tryptase is the most widely available diagnostic marker (biomarker) in anaphylaxis.
3. Adrenaline (in the form of an autoinjector) should always be available for any patient who has experienced anaphylaxis or is at risk of experiencing it.
4. Education and management plans are crucial in long-term management of anaphylaxis.
5. Patients, family members, and caregivers should be trained in the identification of an anaphylaxis episode and the administration of adrenaline autoinjectors.
6. All cases of anaphylaxis should preferably be referred to an allergist to identify the trigger(s) and stratify future risk.
7. Patients' associations play a crucial role in the long-term management of anaphylaxis, improve patients' care and legal protection, raise awareness of the disease in the general population, and influence stakeholders.

Anaphylaxis is a medical emergency that requires immediate assessment of severity following the ABCDE approach [5]. Its treatment requires the participation of trained professionals, patients, and caregivers to ensure early recognition and prompt administration of intramuscular adrenaline, both of which are key factors that impact on the morbidity and mortality of anaphylaxis [6].

Most cases of anaphylaxis respond to a single dose of adrenaline, the first-line treatment. The recommended approach is intramuscular administration to the mid-lateral thigh, which is considered the safest and fastest route to achieve the optimal plasma concentration [7]. Adrenaline has no absolute contraindications, as the benefits (reduced morbidity and mortality) outweigh any possible adverse effects. Other commonly used treatments, such as antihistamines and corticosteroids, should be considered only after initial assessment and adrenaline injection. Recovery maneuvers should never delay the administration of adrenaline, and patients should be monitored to avoid complications and biphasic reactions.

After an episode of anaphylaxis, patients should be referred to an allergist to identify potential triggers and stratify future risk of reactions. This approach requires a detailed clinical history including previous episodes, triggers, contributing factors (cofactors such as exercise and alcohol), description of the reaction, treatment administered, and resolution of symptoms. Serum tryptase values at baseline and during the acute phase are also of interest. Finally, based on this clinical information, in vivo testing (skin tests), in vitro testing (allergen-specific IgE, basophil activation test), and challenge testing can be performed to confirm the trigger.

Anaphylaxis is the most severe acute manifestation of a chronic disease, ie, allergy; therefore, the need for long-term management is clear. Patients' education should include identification of the reactions and training on adrenaline autoinjector use (how and when), as well as implementation of prevention measures. Considering the potential changes in the disease over time and the sporadic character of anaphylaxis, patients should be periodically re-educated and retrained. Tailored management plans considering age, socioeconomic factors, comorbidities, and specific characteristics of the patient's allergy should always be in place and periodically re-evaluated. These plans should include strategies to identify anaphylaxis (key symptoms), instructions on how to administer first-line treatment (intramuscular adrenaline) in a proper and timely manner (what, how, and when), and tailored preventive measures.

Considering that many reactions occur when patients are not at home, mainly in schools and restaurants, these locations should also have action plans in place to raise awareness of anaphylaxis and facilitate the implementation of training strategies. Such an approach will improve the identification, management, and prevention of the reaction and promote patient inclusion.

Finally, patients' associations play a crucial role in the long-term management of anaphylaxis, raising awareness of the disease among the general population and influencing stakeholders, such as schools, the food industry, the health system, and pharmaceutical companies. These associations give voice to anaphylaxis patients in their endeavor to improve their care and legal protection. The associations partner with patients in their journey, fostering education, providing emotional support, and promoting awareness and programs to ensure social inclusion [8,9].

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

1. Cardona V, Ansotegui IJ, Ebisawa M, El-Gamal Y, Fernandez Rivas M, Fineman S, et al. World allergy organization anaphylaxis guidance 2020. World Allergy Organ J. 2020 Oct 30;13(10):100472. doi: 10.1016/j.waojou.2020.100472.
2. Cardona Dahl V, Chivato Pérez T, Diéguez Pastor MDC, Escudero Diez C, Fernández Menéndez V, Fernández Rivas M, et al. Guía de actuación en anafilaxia: GALAXIA 2022 [Internet]. Esmon Publicidad, S.A.; 2022. Available at: https://guiagalaxia.com/
3. Muraro A, Worm M, Alviani C, Cardona V, DunnGalvin A, Garvey LH, et al; European Academy of Allergy and Clinical Immunology, Food Allergy, Anaphylaxis Guidelines Group. EAACI guidelines: Anaphylaxis (2021 update). Allergy. 2022 Feb;77(2):357-77. doi: 10.1111/all.15032..
4. Passia E, Jandus P. Using Baseline and Peak Serum Tryptase Levels to Diagnose Anaphylaxis: a Review. Clin Rev Allergy Immunol. 2020 Jun;58(3):366-76. doi: 10.1007/s12016-020-08777-7.
5. Krishnaswamy G. Critical Care Management of the Patient With Anaphylaxis: A Concise Definitive Review. Crit Care Med. 2021 May 1;49(5):838-57. doi: 10.1097/CCM.0000000000004893.
6. Higgs J, Styles K, Bowyer S, Warner A, Dunn Galvin A. Dissemination of EAACI food allergy guidelines using a flexible, practical, whole school allergy awareness toolkit. Allergy. 2021 Nov;76(11):3479-88. doi: 10.1111/all.14871. Epub 2021 May 18.
7. Campbell RL, Li JT, Nicklas RA, Sadosty AT; Members of the Joint Task Force; Practice Parameter Workgroup. Emergency department diagnosis and treatment of anaphylaxis: a practice parameter. Ann Allergy Asthma Immunol. 2014 Dec;113(6):599-608. doi: 10.1016/j.anai.2014.10.007.
8. Simons FE, Clark S, Camargo CA Jr. Anaphylaxis in the community: learning from the survivors. J Allergy Clin Immunol. 2009 Aug;124(2):301-6. doi: 10.1016/j.jaci.2009.03.050.
9. Muraro A, Clark A, Beyer K, Borrego LM, Borres M, Lødrup Carlsen KC, et al. The management of the allergic child at school: EAACI/GA2LEN Task Force on the allergic child at school. Allergy. 2010 Jun 1;65(6):681-9. doi: 10.1111/j.1398-9995.2010.02343.x.

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