Soon or later, one of your patients is likely to experience a serious allergic reaction to a drug, food or insect. This frequently occurs when you least expect it. The article by Yong et al in this month’s *Southern Medical Journal* reminds us that the multisystem clinical features of anaphylaxis may confuse even the most astute clinician and may have severe consequences.

Anaphylaxis, the most severe form of allergic reaction, has clinical features which predispose to both morbidity and mortality: hypotension, cardiac arrhythmia, and airway obstruction from bronchospasm or laryngeal edema. These symptoms are directly attributable to a family of vasoactive and inflammatory mediators released from dense accumulations of mast cells in the respiratory and gastrointestinal tracts, and the conduction system of the myocardium (Fig.).

Following David Letterman’s lead, here is my top 10 list of things we often forget about anaphylaxis:

#1. The progression of anaphylaxis from itching and urticaria to death is unpredictable. Patients with these symptoms should be treated as soon as they occur.

#2. Patients with anaphylaxis may present with hypotension alone and no cutaneous or pulmonary findings. Acute diarrhea can also be an isolated presentation.

#3. Epinephrine is the first and most important drug to use in an acute allergic reaction. Antihistamines and corticosteroids are second-line therapy.

#4. Epinephrine should be administered IM, not subcutaneously. It should not be administered IV in concentrations of greater than 1:10,000, and then only in dire straits.

#5. There is no absolute contraindication to the use of epinephrine in patients with heart disease who experience anaphylaxis.

#6. Anaphylactic reactions are biphasic as often as 20% of the time. That is, symptoms recur an average of 4 to 8 hours after the original episode, even with adequate treatment. Reports of earlier recurrence or later recurrence up to 48 hours have appeared. Therefore, physicians should consider hospitalization for patients with severe symptoms or those who may not have ready access to the emergency room. Epinephrine autoinjector prescriptions to permit a second dose of epinephrine might be appropriate in some patients.

#7. At least 40% of patients who have had allergic reactions after insect stings will have equally severe or worse reactions on re-sting. Therefore, all patients who have anaphylaxis after an insect sting or any unknown or potentially unavoidable cause (eg, peanuts) should be prescribed an automated epinephrine delivery device (Epi-Pen, Dey Pharmaceutical, Napa, CA or Twinject, Verus Pharmaceuticals, San Diego, CA), trained in the use of the device, and referred to an allergist for testing and consideration for immunotherapy. This treatment is over 95% effective in preventing allergic reactions on re-sting. Many physicians and their staff do not know how to use an epinephrine delivery device, so they are unable to train their patients to use one properly.

#8. Patients on beta blockers who experience anaphylaxis may have a hypertensive response to epinephrine and suboptimal clinical improvement, and may require 1 to 3 mg of IV glucagon once or glucagon by continuous infusion until anaphylaxis is controlled. IV glucagon makes most people vomit and one must prepare for that when using it.

#9. Rarely, anaphylactic reactions can be protracted over many hours. In such cases, patients may require large volume fluid resuscitation, treatment with vasopressors, or intra-aortic balloon pump therapy. Risk factors for this syndrome are unknown.

#10. The serum tryptase assay is highly specific for anaphylaxis and can be used retrospectively to confirm the diagnosis where it was unclear. However, a...
Negative result does not exclude the diagnosis when clinical manifestations are compelling.

Recently, a neighbor of ours who had been treated for anaphylaxis to a fire ant sting was stung again while jogging in the neighborhood. He had another episode of anaphylaxis. He had no epinephrine and had not received immunotherapy to prevent further reactions. He died on the jogging track. This occurred because somebody forgot “#7.” It is therefore critical that clinicians keep the myriad of anaphylaxis symptoms in mind when treating patients.

References

7. Joint Task Force on Practice Parameters; American Academy of Allergy, Asthma and Immunology; American College of Allergy, Asthma and Immunology; Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of anaphylaxis: an updated practice parameter. J Allergy Clin Immunol 2005;115:S483–S523.

To be published with “Anaphylactic Shock: The Great Mimic” on page 295 of this issue.