



Letter

An infrequent case of anaphylaxis

We present the case of a 40-year-old woman with no relevant background. On December 29, 2014, immediately after eating pizza (made with turkey, cheese, onion, tomato, buckwheat, and oregano) and eggplant with baked cheese, she presented with intense diaphoresis, generalized erythema, abdominal pain, dyspnea, foreign body sensation in the throat, and unconsciousness with urinary and fecal incontinence for 15 minutes.

On the physical examination, intense erythema and uvula angioedema was recorded. Vital signs demonstrated hypotension 69/47 mm Hg, tachycardia 120 beats/min, and pulse oximetry 75% on room air. No tryptase levels were measured at that time. She was administered 300 µg of intramuscular epinephrine, salbutamol aerosol spray, 5 mg of intravenous dexchlorfeniramine, and 40 mg of intravenous methylprednisolone. She had complete resolution of symptoms and was discharged from the emergency department. Twenty-four hours before her event, she had taken an ibuprofen tablet.

The patient was then referred to our allergy service. Other cofactors, such as exercise, alcohol intake, or fever, were ruled out. The patient had traveled in 2007 to New Zealand for 1 month in a caravan. After the anaphylaxis episode, the patient had tolerated all foods except the eggplant. An allergological study was then performed that included skin prick test (milk, galactose- α -1,3-galactose, β -lactoglobulin, egg, ovalbumin, ovomucoid, cheese, ham, tomato, eggplant—all negative), complete blood panel, biochemistry (including coagulation, liver and renal panel, electrolytes), and basal tryptase levels (2.3 µg/L), all within an acceptable range. In-vitro testing showed total immunoglobulin E (IgE) of 2,538 kU/L, and specific IgE to *Ascaris* of 0.72 kU/L. *Fasciola*, amoeba, *Cysticerci*, and *Trichinella* IgG serology tests were negative; however, the result for *Echinococcus granulosus* was positive: 1 of 8,192. Abdominal echography and computed tomography demonstrated multiple hepatic focal lesions suggestive of hydatidosis, some with an exophytic component toward the subhepatic region, even reaching up to intestinal loops. There were no extrahepatic lesions. **Figure 1** shows it is even possible to distinguish the 3 layers of the cyst: 2 of them as part of the larvae and the third one, part of the host, acting as protection for the larvae to avoid the action of the immune system. This third layer protects against foreign-body reaction. The final diagnosis was anaphylactic shock by multiple hepatic hydatid cysts. Typically, these patients would have symptoms associated with trauma or surgery.¹⁻³ In our patient, however, due to the big size of the lesion, the anaphylaxis episode was probably due to small ruptures of the cysts that led to deposition of the larvae or leakage of some antigen into the circulation. The patient was treated with 400 mg albendazole every 12 hours before a cyst-periquistectomy



Figure 1. Abdominal computed tomography shows hepatic focal lesions with the characteristic hydatidosis. In segment 4 of the liver, there is a 4-cm lesion, with an exophytic component toward the subhepatic region. In the right flank, and in contact with the visceral face of segment 5, another lesion of 5 cm, with a mainly peritoneal location, can be seen. It is even possible to distinguish the 3 layers of the cyst: 2 of them as part of the larvae and the third a part of the host, acting as protection against the immune system (red arrows).

of the gallbladder and 3 segments of the liver. She received treatment with albendazole for 2 months after the surgery.

After surgery, 2 years after the diagnosis, no relapses were recorded. At our most recent assessment in January 2017, the results were as follows: total IgE, 566 kU/L (78% decrease from the initial value); specific IgE *Ascaris*, 0.33 kU/L; and *E granulosus* IgG serology, 1 of 512 (93.7% of decrease from the initial value).

In conclusion, this case is outstanding because this image is pathognomonic of the disease. The large size of the cyst suggests that it had likely been growing inside the liver for many years before showing any symptoms. According to the World Health Organization, echinococcosis was supposed to be eradicated by 2020, but quite the opposite has occurred. In many countries, such as Spain, its frequency has increased.⁴⁻⁸ These patients can be a host for long periods before showing symptoms. When symptoms do occur, they often appear to be severe anaphylaxis requiring admission and mechanical ventilation. We emphasize the importance of considering echinococcosis as a possible cause of anaphylactic shock. In Spain, echinococcosis is more common due to the migration movements. Echinococcosis has increased in recent years in almost all developed countries, and is quite far from being eradicated.

Mercedes Sáenz de Santa María García, MD^{*,†}
 Maria del Carmen Lillo Ordoñez, MD^{*,†}
 Benjamin Diaz-Zorita, MD^{*}
 Maria Luisa Baeza, MD, PhD^{*,†,‡}

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*Allergy Service
Hospital General Universitario Gregorio Marañón
Madrid, Spain
†Gregorio Marañón Health Research Institute
Madrid, Spain
‡Biomedical Research Network on Rare Diseases
U761 CIBERER
Instituto de Salud Carlos III
Madrid, Spain
mercedessaenzgarcia@gmail.com

References

- [1] Ozkan F, Yesilkaya Y, Peker O, et al. Anaphylaxis due to spontaneous rupture of primary isolated splenic hydatid cyst. *Int J Crit Illn Inj Sci*. 2013;3:152–154.
- [2] Villanueva Forero M, Soria Moncada J, Cornejo Leon M, Soto Arquíñigo L, Arauco Brown R. An unusual case of anaphylaxis after blunt abdominal trauma. *J Emerg Med*. 2016;50:e143–e146.
- [3] Davarci I, Tuzcu K, Karcioglu M, Yetim I, Aydogan A, Turhanoglu S. Anaesthetic management of anaphylactic shock caused by nonruptured hydatid cyst of the liver. *West Indian Med J*. 2014;63:545–547.
- [4] Minciullo P, Cascio A, David A, et al. Anaphylaxis caused by helminths: review of the literature. *Eur Rev Med Pharmacol Sci*. 2012;16:1513–1518.
- [5] Rojo-Vazquez FA, Pardo-Lledias J, Francos-Von Hunefeld M, et al. Cystic echinococcosis in Spain: current situation and relevance for other endemic areas in Europe. *PLoS Negl Trop Dis*. 2011;5:e893.
- [6] Romero-Alegria A, Belhassen-García M, Alonso-Sardón M, et al. Imported cystic echinococcosis in western Spain: a retrospective study. *Trans R Soc Trop Med Hyg*. 2017;doi:10.1093/trstmh/trw081.
- [7] Dakkak A. Echinococcosis/hydatidosis: a severe threat in Mediterranean countries. *Vet Parasitol*. 2010;174:2–11.
- [8] Nieto-Nieto A, Tejedor-Alonso MA, Farias-Aquino E, et al. Clinical profile of patients with severe anaphylaxis hospitalized in the Spanish hospital system: 1997–2011. *J Invest Allergol Clin Immunol*. 2017;27:111–126.