

# Anaphylactic Shock due to Non-Ruptured Hydatid Cyst of Liver

Sir,

A 29-year female patient was brought to the Emergency Department around 6.00 AM. Her Glasgow coma score (GCS) was 9, systolic blood pressure (SBP) 60 mmHg, diastolic blood pressure (DBP) 0 mmHg, pulse 150/min, and O<sub>2</sub> saturation (SpO<sub>2</sub>) with fingertip pulse-oximeter was 96 %. Blood sugar measured was 150 mg/dL. The patient was considered in anaphylactic shock. Thus, 2000 cc of 0.9 % NaCl was given as rapid infusion. Adrenaline was administered 0.3 mg subcutaneously and 70 mg prednisolone; and 50 mg ranitidine and 45 mg phenylephrine IV were given intravenously. Brain computed tomography was normal. Hydatid cyst was observed in abdominal ultrasound. The patient responded to medical treatment and SBP increased to 110 mmHg, DBP to 67 mmHg, and pulse rate declined to 105/min. She regained consciousness after approximately 3 hours and GCS improved to 15. We consulted general surgery with preliminary diagnosis of ruptured hydatid cyst. After computed tomography scan of abdomen, ruptured hydatid cyst was excluded. The cyst was located in the right lobe of liver. Echinococcus specific IgE was 43.8 U/ml (very strong positive; normal range: 0-6.0 U/ml). The patient was admitted to general surgery clinic for 2 days with diagnosis of non-ruptured hydatid cyst. She was then discharged and outpatient treatment was arranged. She was given albendazole 15 mg/Kg/day, divided into 2 doses per day for 3 weeks. Her condition improved with medical treatment and was advised to come for follow-ups. Hydatid cyst wall is made up of two layers, endocyst and exocyst. The protective outer layer comprises of mucopolysaccharide structure and is called exocyst, and the fertile inner layer, where the vesicles and scoleces are born is called endocyst. Inside the cyst is a clear, sterile but antigenic liquid called rock water. Anaphylactic shock caused by echinococcosis was found to be an IgE-related allergic reaction.<sup>1</sup> Most of the patients had IgE, which is developed against *echinococcus granulosus* antigens and serum IgE levels are associated with the severity of the disease.<sup>2</sup>

While 16.7-25 % of patients with hydatid cyst rupture developed minor allergic reactions such as hives, 1-12.5 % patients showed more severe allergic reactions such as peripheral edema, syncope and anaphylaxis.<sup>3</sup> In our case, there was no evidence of rupture of the hydatid cyst, but the patient devel-

oped severe anaphylactic shock, which was very unusual. In our case, the cyst liquid, which is antigenic, somehow leaked without overt rupture of the cyst, leading to anaphylaxis. In the laboratory findings of our patient, high levels of hydatid-specific IgE antibodies support this idea.

In summary, non-ruptured hydatid cyst should be kept in mind in cases of anaphylaxis and anaphylactic shock.

## CONFLICT OF INTEREST:

The authors declared no conflict of interest.

## AUTHORS' CONTRIBUTION:

AA, BSA, KS: Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; drafting the work or revising it critically for important intellectual content; and final approval of the version.

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