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Available online at: http://www.iajps.com ***A Case Report***

ANAPHYLACTIC SHOCK CAUSED BY SPONTANEOUS RUPTURE OF A HEPATIC HYDATID CYST: A CASE REPORT FROM SAUDI ARABIA

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Abstract:

Hydatid disease is a rare parasitic infestation that can cause a life threatening anaphylactic shock secondary to spontaneous rapture. The parasite cysts are not uncommon in Saudi and few were previously reported. However, anaphylactic shock due sudden rupture of the cyst is not common to occur and has been very rarely reported in the literature. Our case describes a 52-year-old Saudi female presenting at the emergency department with a sudden generalized abdominal pain associated with signs of shock. After stabilization of the patient's blood pressure, she was sent for abdominal Computed Topography (CT) scan for appropriate diagnosis. The patient status was improved with resuscitation and excision of the ruptured cyst. This case emphasizes the importance of considering hydatid disease as a differential diagnosis in shock cases especially if the case is in an endemic area. Spontaneous rupture with anaphylaxis is rare to occur, and there do not seem to be any similar reported cases from Saudi prior to this. In addition, it is crucial to constantly provide regular updates on the disease especially in endemics areas.

Key words: *Hydatid cyst, liver, anaphylactic shock, endemic disease, acute abdomen, case report.*

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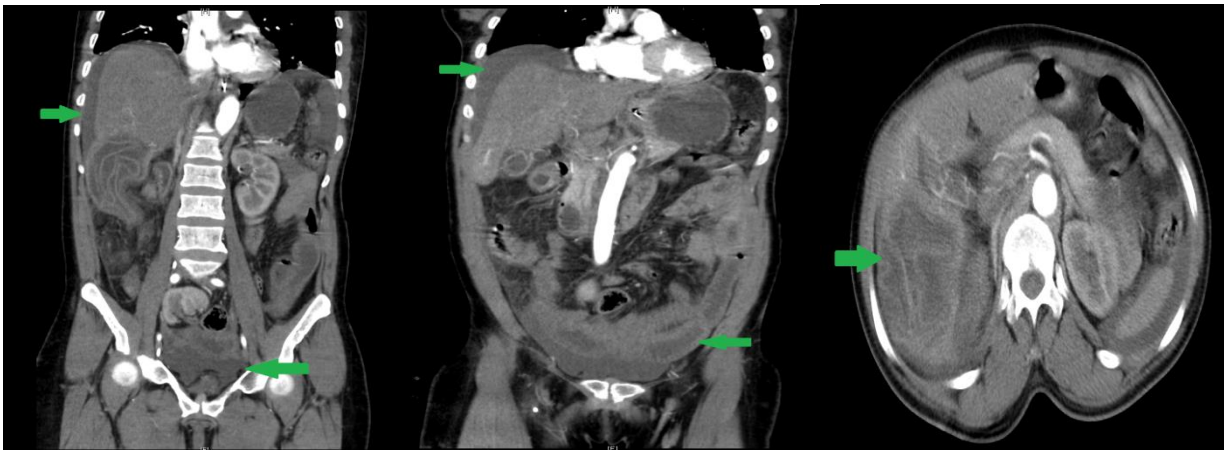
INTRODUCTION:

Hydatid disease (Echinococcosis) is a parasitic zoonosis caused by a tapeworm belonging to the genus Echinococcus and the family Taeniidae. [1,2] The definitive hosts, most commonly dogs, harbor adult cestodes in the small intestines and release their eggs within the stools. Sheep, swine and humans act as aberrant hosts and they are accidentally infected by ingesting contaminated food or water which will result in various forms of echinococcosis. [1] The forms that are of special medical importance are cystic and alveolar echinococcosis. [1] This disease is endemic in many countries one of which is Saudi Arabia with the highest prevalence in the southwestern region of the country. [1,3] The Parasite cysts can be established, as several cases reported from Saudi, in all anatomic sites of the body such as brain and soft tissue, yet liver and lung are the most frequently affected organs. [1,4,5] Although most of hydatid cyst cases are asymptomatic, patient may present with systemic immunological reaction symptoms like urticaria, asthma or anaphylaxis. In addition, the course of the disease can be associated with wide spectrum of complications such as cysts rupture which can be fatal. [1,6]

CASE REPORT:

We are reporting a 52 years old female, medically free, who presented at the emergency department complaining of sudden, severe, generalized abdominal pain which started at 05:00 a.m., three hours before presentation. The pain started at the epigastrium and subsequently became generalized. It was associated with shortness of breath, five episodes of vomiting of only gastric content and decreased level of consciousness. There was no history of previous similar episodes, fever, cough, chest pain or any previous surgeries. On arrival, her vital signs were systolic blood pressure: 75/51 mmHg, pulse rate: 130/min, respiratory rate: 22/min and temperature: 37.6˚C. The patient was resuscitated by the emergency physician with two liters of normal saline and connected to 8 liters of oxygen via face mask. On examination, her airway was patent; there was an equal bilateral air entry into her lungs, no obvious external bleeding. Abdominal examination indicated a tender abdomen but soft otherwise. Her blood pressure did not increase and two additional liters of fluids were given. In addition, intravenous antibiotics were administered. A right femoral central line was inserted and Norepinephrine was started. After stabilization of the patient's blood pressure, she was sent for Computed Topography (CT) scan for her abdomen to rule out bowel ischemia. The laboratory values revealed normal hemoglobin (16 g/dl), Lactic acid was high (8.3 mmol/L) and elevated white blood count (14.5 x 10^9/L). The CT scan showed a ruptured hydatid cyst in segment five of the liver associated with peri-hepatic and peri-splenic free fluid. In addition, thickening of the jejunal and ileal loops was noted with no signs of bowel ischemia (**Figure 1**). After CT scan, the patient underwent an exploratory laparotomy for deroofing of the hepatic hydatid cyst, endocystectomy and washout. Intraoperatively, a large amount of purulent free peritoneal fluid was found and sampled for culture and sensitivity. The abdomen was irrigated with warm saline. Exploration revealed a large ruptured hepatic hydatid cyst in segments five and six of the liver. There were no other visible cysts. Formal exploration of the abdomen showed no signs of bowel ischemia or other apparent pathology. The remaining contents of the hydatid cyst were suctioned and the daughter cysts were removed and sent for pathology. Thorough irrigation of the area with 10% Betadine solution was performed. Omental adhesions to the cyst wall were removed using electrocautery. The exophytic part of the cyst wall was grasped with an ovum forceps, excised with diathermy and sent for pathology. A closed suction drain was inserted in the cyst cavity with a large vascularized pedicle of omentum. The patient tolerated the procedure very well, was extubated and sent to the recovery room in a stable condition. The next day, her vital signs improved and the abdominal pain decreased from 9/10 to 3/10 pain score. The abdominal drainage was hemoserrous fluids only. She was kept in the ward for post-operative observation. The pathology diagnosis showed an echinococcal cyst with multiple echinococcus granulosus cysts.



A B C

Fig 1: **A**: Peri-hepatic and pelvic free fluid **B**: Jejunum and ilium wall thickening **C**: Hydatid cyst location

DISCUSSION:

Hydatid cyst (HC), or hydatidosis, is a rare zoonotic infection which was described thousands years ago by Hippocrates as a water-filled tumors. [1] The cysts can be asymptomatic and observed on post-mortem examination or sometimes they burst open into the abdominal cavity. [1] The patient presented with sudden abdominal pain, dyspnea and vomiting. A diagnosis of ruptured hydatid cyst was suggested by ultrasound (US) findings and confirmed by CT scan. [7,8] An increase in the intracystic pressure, trauma or surgical procedures like percutaneous aspiration of the cyst can result in spontaneous rupture. [9] Lewall et al classified ruptured hydatid cysts into three categories: contained, communicating and direct. [10] In contained rupture, only the endocyst is torn and cyst contents are confined within the surrounding layer of host reactive tissue, the pericyst. Communicating rupture consists of a tear of the endocyst with subsequent escape of the cyst contents via bronchioles or biliary radicles that have been incorporated in the pericyst. A tear of both the pericyst and endocyst allowing cyst contents to spill into the peritoneal or pleural spaces is categorized as a direct rupture. [10] Surgical removal of the cysts via open or laparoscopic techniques and Benzimidazole drugs, namely flubendazole, mebendazole and albendazole, are considered as effective treatment options for HC. [2,11] In conclusion, hydatid disease must be considered as a differential diagnosis in endemic areas in cases of acute abdominal pain. Although it is infrequent, the possibility of anaphylaxis must be kept mind. Early diagnosis with US or CT scan and appropriate treatment are essential for favorable outcomes.

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