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Research Article

Hepatic hydatid cyst rupture into the peritoneal cavity, due to blunt abdominal trauma, a case report

Mehrabi Saadat[1], Elham Talakoob[2], Fatemeh Farhadipour[3], Najmeh Erfani[4], Amin Hossaini Motlagh[5] and Reza Hosseinpour[6*] (Corresponding Author)

[1]Assistant Professor of Thoracic Surgery, Department of General Surgery, Clinical Research Development Unit, Yasuj University of Medical Sciences, Yasuj , Iran
[2]General Surgery, Department of General Surgery
[3,4]Student of Medicine, Yasuj University of Medical Sciences, Yasuj , Iran.
[5]Assistant professor, Ph.D in Env.Health Clinical Research Development Unit, Yasuj University of Medical Sciences,Yasuj,Iran
[6]Corresponding Author:Assistant Professor of General Surgery, Department of General Surgery, Clinical Research Development Unit,Yasuj University of Medical Sciences,Yasuj, Iran.
E-mail:r_hosseinpour@yahoo.com

INTRODUCTION

Echinococcus granulosus causes cystic echinococcosis. It uses carnivores, particularly dogs and other canines, as definitive hosts(1).humans can act as intermediate hosts by eating eggs on contaminated herbage..Echinococcus granulosusis found throughout the world and especially in sheep farming regions(2) because E. granulosusis transmitted by domestic dogs in livestock-raising areas, hydatid disease is prevalent worldwide (in Africa, Middle East, southern Europe, Latin America, and southwestern United States(3)the adult tapeworm is attached to the villi of the ileum. Up to thousands of ova are passed daily and deposited in the dog's feces. Sheep are the usual intermediate host, but humans are an accident intermediate host by eating eggs on contaminated herbage (1). Humans are an end stage to the parasite. (4) The eggs hatch within the intestine of the intermediate host to release the oncosphere stage and this then penetrates the gut and enters the blood circulation. The oncosphere is then swept around the body to the point at which it will develop into the metacestode (larval) stage, which is commonly called a 'hydatid cyst (2). Three weeks after infection, a visible hydatid cyst develops, which then slowly grows in a spherical manner. (4) They grow to 5 to 10 cm within the first year and can survive for years or even decades. (3) A pericyst or fibrous capsule derived from host tissues develops around the hydatid cyst. The cyst wall itself has two layers, an outer gelatinous Membrane (ectocyst) and an inner germinal membrane (endocyst). (4)hydatid cysts of E. granulosustend to form in the liver (50% to 70% of patients) or lung (20% to 30%) but may be found in any organ of the body, including brain, heart, and bones (<10%).Effects of a hydatid may not become apparentfor many years after infection because of its usual slow growth. Up to 20 years may elapse between infection and overt pathogenesis,The clinical presentation of a hydatid cyst is largely asymptomatic until complications occur.The most

common presenting symptoms are abdominal pain, dyspepsia and vomiting. (1&4)

CASE REPORT

The patient was a 7 years old girl who brought to emergency department because of abdominal pain due to blunt abdominal trauma that occurred 30 minutes Pervious time admission. The patient developed with preumblical pain and followed with several times vomiting. She did not have any symptoms of pruritus. In primary examinations vital signs were stable, blood pressure was 100/70 mmHg, pulse rate=110 beats per minute, respiratory rate=18 breathe/min and she was afebrile. The patient suffered from abdominal pain and she was agitated. Skin appearance was normal without any sign of urticarial lesions. Abdominal exam revealed preumblical tenderness guarding. Focused abdominal sonography for trauma (FAST) was done, Demonstrated on the presence of free fluid in abdominal cavity .Complete blood count reveals leukocytosis (WBC=15900) and the other tests were insignificant. She was stable at emergency department for 2 hours, but then because of blood pressure drop and the presence of fluid in the peritoneal cavity became candidate for surgical intervention and exploratory laparotomy.

The patient was taken to the OR and exploratory laparotomy was done under general anesthesia through an abdominal midline incision. The surgical team unbelievingly recorded about 400 ml pussy liquid in the peritoneal cavity on opening instead of blood. A ten centimeters size cystic lesion was found at the liver. Partial hepatectomy was performed and followed by the peritoneal cavity irrigation with hypertonic saline. Pathological studies confirmed the hydatid nature of the cyst. Postoperative course passed without any problems.

The patient discharged after four days surgical ward hospitalization. She received oral Al-bendazole for six months. She was followed up 3th , 6th , 9th ,12th and 18th months post operation. Clinical and ultrasound investigations revealed no sign of recurrence of disease.

DISCUSSION:

as other middle east countries, the prevalence of hydatid cyst in Iran is high. It is endemic in the areas that people are stockbreeders. (5, 6).Hydatid cyst rupture in to the abdominal cavity is rare, even in endemic areas. The risk of cyst rupture increases when size and pressure increase. The inside pressure of cyst can reach up to 50 cm w and this may cause spontaneous rupture of the cyst or increase in rupture risk due to mild trauma. abdominal pain, nausea & vomiting are the most prevalent symptoms. Most of acute abdomen signs such as tenderness, rebound tenderness and guarding exists. Itching and rash are allergic signs and they are not so prevalent. Anaphylaxis and sudden death are reported in 25 % of hydatid cyst patients (7,8,9).

In a study that was conducted in Tehran for 15 years, demonstrated that the most prevalent involved organ is liver (46 %), then lung (44 %), brain (2 %), kidneys (1.5 %), and finally testicles, spleen, peritoneum, pancreas, gallbladder, uterus, breast, parotid and heart (less than 1 %)(12).

This case was a 7 years old child who developed with abdominal pain and tenderness due to blunt trauma. She did not present with allergic signs except for blood pressure dropping that mimic the instability that is due to an internal hemorrhage.

The common period of the disease differs from months to years. The cyst growing rate differs among different people and organs. (11) Although this patient was seven years old she had a ten centimeters cyst in her liver.

CONCLUSION:

Large and anterior liver cysts and cysts that are near to the abdominal wall must be operated,Because mild abdominal traumamay developes cyst rupture and its consequences .

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