

Echinococcosis of Iliopsoas Muscle and Anaphylaxis as the Cause of Urgent Laparotomy

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ABSTRACT

Echinococcosis is an infectious disease which in humans is caused by the larval stadium of two types of parasites (Echinococcus granulosus and Echinococcus multilocularis). It is most frequently localized in the liver, lungs and rarely in muscles. The parasite significantly affects the immune system of the host, which is why anaphylactic reactions are not rare, especially in cases of cyst rupture. This paper presents the case of a 53-year old woman who had urgent laparotomy on the presumed basis of rupture of ovarian tumour, with intra-abdominal haemorrhage and shock. It turned out to be echinococcosis of the iliopsoas muscle and anaphylactic reaction. The differential diagnosis of adnexal tumours should take into consideration echinococcosis as well. Symptoms of anaphylactic shock in the case of parasitic cyst rupture can easily be confused with the signs of haemorrhagic shock.

Keywords: Anaphylactic reaction, echinococcosis, urgent laparotomy

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INTRODUCTION

Echinococcosis is an infectious disease which in humans is caused by larval stadium of echinococcosis parasites (1, 2). Clinical manifestations depend on localization and the size of the lesion (3). The course of the disease correlates with the host's immunological characteristics (4). The parasite has a strong impact on the host's immune system, especially in cases of cyst rupture (5). Muscle echinococcosis is much rarer (6–9). Hydatid cysts can be the cause of abdominal pain (10) and can present a diagnostic dilemma (3, 10, 11).

CASE REPORT

The patient was a 53-year old woman who came to the gynaecologist with severe abdominal pain lasting for several hours. The patient complained of a stabbing, knife-like pain that started suddenly in the left iliac region, accompanied by nausea, vomiting, fatigue and fainting. The symptoms were unprovoked and began at the workplace. The patient did not feel any alleviation of symptoms after taking analgesics that the doctors in the emergency centre had prescribed. Prior to admission, the patient was examined by the emergency

medicine specialist, surgeon and urologist. In her personal anamnesis, no abnormalities were detected. She had no allergies and no chronic diseases. Menstrual history: menarche at the age of 12 years, regular menses, one pregnancy (Caesarean section) and menopause occurred three years ago. On admission, the abdomen was characterized by diffuse painful sensitivity and the presence of guarding. The patient was pale, bedewed with cold sweat and hypotensive on admission (70/45 mmHg). Gynaecological examination revealed no abnormalities. Speculum examination showed smooth vagina walls, cylindrical cervix, with transverse opening and no bleeding. On bimanual examination, Proust pain sign was negative, the uterus was anteverted, movable and of appropriate size; no abnormalities were detected in the right adnexa. In the left adnexal region and below the uterus, tumefact could be palpated which was the size of a child's head. It was irregularly bordered and extremely painful upon palpation.

Transvaginal sonography (TVS) revealed uterus 60 mm x 45 mm x 49 mm, endometrium 3 mm, right ovary 20 mm x 25 mm, multilocular tumefact behind uterus 250 mm x 150 mm and presence of free fluid in front of and behind the uterus (Fig. 1).

Upon admission, the patient was extremely hypotensive (60/35 mmHg), pale and was vomiting. Blood was taken for laboratory analysis, determination of blood group and Rhesus (Rh) factor and complete blood count. Urgent laparotomy was done.

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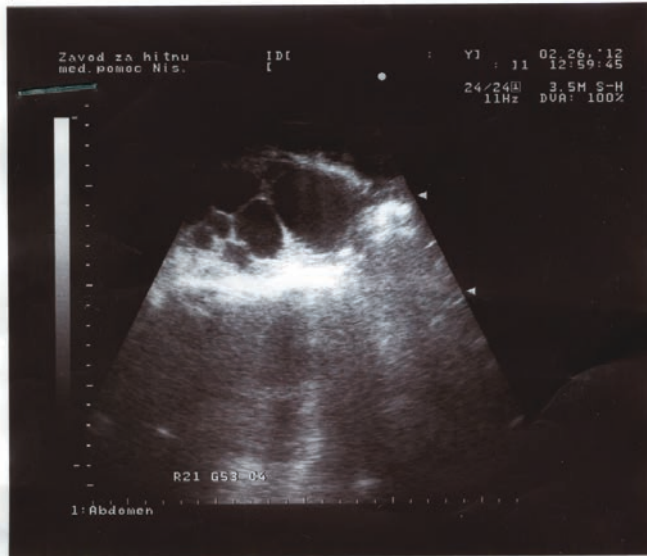


Fig. 1: Ultrasound image of hydatid cyst.

The abdomen was opened by low longitudinal laparotomy, following the previous laparotomy scar. Approximately 200 cm of serous fluid was present in the abdomen. The fluid was sampled for bacteriological and cytological analysis. The uterus and adnexa showed no abnormalities. No pathological changes were found upon exploration of the abdominal cavity. In the left retroperitoneal region, behind the iliopsoas muscle and laterally from the ureter, a 25 cm x 12 cm tumefact that stretched to the iliac bone could be palpated. A surgeon and urologist took part in the surgery. Abdominal incision was expanded paraumbilically and above the umbilicus, which allowed for the exploration of all organs present in the abdominal cavity. No pathological changes were found. After the cutting of the peritoneum, the tumour was opened (Figs. 2, 3).



Fig. 2: Capsule hydatid cysts.



Fig. 3: Macroscopic view of hydatid cysts.

The opened tumour was emptied of detritus and of several cystic changes ranging in size from 1 to 2 cm. After being emptied, the tumour was carefully removed from the surrounding structures. The ureter was prepared and dislocated, after which the tumour capsule was completely peeled off. Two drains were placed inside the tumour lodge and one drain was placed in the Pouch of Douglas. Afterwards, the abdomen was closed layer per layer.

The results of laboratory analyses showed: white blood cell 6.89 cells/L; neutrophils 6.26 cells/L; lymphocytes 0.35 cells/L; monocytes 0.27 cells/L; basophils 0 cells/L; red blood cells 3.94 cells/L; haemoglobin 117 g/L; haematocrit 0.359 L/L; platelet count 231 cells/L; glucose 6.7 mmol/L; urea 5.3 mmol/L; creatinine 72.1 $\mu\text{mol/L}$; urates 152.9 $\mu\text{mol/L}$; total proteins 66 g/L; albumin 43.9 g/L; aspartate aminotransferase 19.6 IU/L; lactate dehydrogenase 407 IU/L; gamma-glutamyl transferase 125 IU/L; iron 5.20 $\mu\text{mol/L}$; magnesium 0.70 mmol/L; calcium 2.33 mmol/L; sodium 133 mmol/L; potassium 4.2 mmol/L; chloride 104 mmol/L. Coagulation screen: prothrombin time 55 seconds; activated partial thromboplastin time 23.8 seconds; fibrinogen 4061 g/L, D-dimer 2326 ng/mL, international normalized ratio 1.477.

The immediate postoperative course was uneventful. The patient was normotensive and afebrile, with drainage of 800 ml (lavage was carried out).

Multislice computed tomography of the abdomen and small pelvis and lung X-ray were done post-operatively, with no abnormalities detected.

The patient recovered after the operation and was released from the hospital on postoperative day eight in good general condition, with established peristalsis and a wound that healed *per primam*. The lesion of the lumbar plexus was discovered on release, which was explained by its decompression.

Hystopathology showed the signs of echinococcosis. Free fluid inside the abdomen lacked isolated pathogens.

DISCUSSION

Echinococcosis is a disease that is not frequently addressed in gynaecological practice. Cystic changes and abdominal pain in the adnexal region can be non-ovarian as well (3, 10, 11). Application of ultrasound diagnosis, computed tomography and magnetic resonance imaging can be useful in the process of preoperative diagnosis.

Our patient had to undergo urgent operative treatment because of the suspicion of ensuing shock due to the prospective rupture of an ovarian tumour and intra-abdominal haemorrhage. Clinical findings, ultrasound and expressed hypotension on the part of the patient further supported the diagnosis. During the surgical procedure, haemorrhage was excluded, which allowed us to ascribe the symptoms to anaphylactic reaction. Symptoms were reduced in the early postoperative phases, which can be ascribed to tumour extirpation. The literature describes the case of anaphylactic shock of a patient with intact *Echinococcus* of the liver after abdominal trauma. Although the rupture was not confirmed, there was thought to be a microscopic leakage from the cyst after the trauma (4, 12). Abdominal fluid was detected in our patient, which implies the possibility of a cyst rupture and subsequent leakage of the contents from the cyst into the abdomen.

Echinococcosis of the iliopsoas muscle was described by other authors as well (3, 8). Apart from endemic areas, this zoonosis should be taken into consideration in urban areas as well.

In the course of the differential diagnosis of adnexal masses, echinococcosis should be taken into consideration in endemic areas. Moreover, attention should be paid to prospective immunological events (consequential anaphylaxis)

that can have an effect on the making of decisions on prospective operative treatment.

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