

A tropical flower?

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A 28-year-old Bulgarian woman without a notable medical history was presented to our emergency department with unexplained but progressive pain in the lower abdomen radiating to her back without fever. She showed no other focal complaints. Her vital signs revealed a body temperature of 36.5 °C, a blood pressure of 122/76 mm/Hg, heart rate of 58 beats/min and a respiratory rate of 18 breaths/min with a saturation of 98% without receiving extra oxygen. On physical examination, we found three palpable cervical lymph nodes <1 cm. Several abdominal masses were found, painful on palpation, especially on the left side of the abdomen. The liver was also enlarged and filled the abdomen up to the edge of the pelvis. Laboratory

examination showed a raised C-reactive protein level of 35 mg/l (normal value 0-10 mg/l), leukocyte count of $9.0 \times 10^9/l$ (normal value $3.5-10.0 \times 10^9/l$), an eosinophilia of 11 % (normal value 0-5%) and a haemoglobin level of 7.8 mmol/l (normal value 7.5-9.5 mmol/l). A transvaginal ultrasound was performed by the gynaecologist, which showed several cysts, and a magnetic resonance imaging was performed.

WHAT IS YOUR DIAGNOSIS?

See page 100 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (PAGE 96)
A TROPICAL FLOWER?

DIAGNOSIS

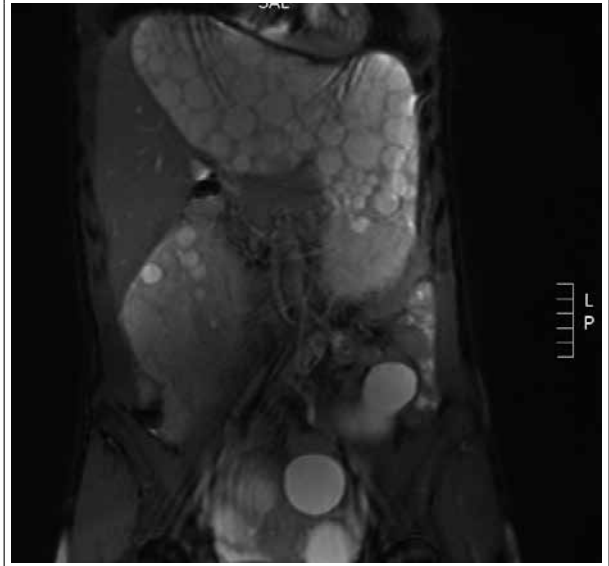
Serology showed a positive ELISA and IgG1/IgG4 for *Echinococcus granulosus*. The magnetic resonance imaging showed a large hydatid cyst in the left lower liver lobe, also called the 'waterlily sign' (figure 1) and multiple cysts in the liver (figure 2).

Hydatid cysts or hydatid disease is created by the larval stage of the parasitic tapeworm *Echinococcus granulosus*. The disease state is characterised by cyst formation in various organs. Hydatid disease frequently occurs in endemic areas, including several Mediterranean countries, New Zealand, Australia, North America, South America, Central America and Asia.¹

The liver is the most commonly affected organ, followed by the lungs. The initial growth of a cyst is usually asymptomatic, until symptoms are caused by the cyst's space-occupying mass effect, mechanical obstruction or rupture. Anaphylactic reactions are rare presentations of a ruptured hydatid cyst.² Diagnosis of a hydatid cyst is difficult and hydatid cysts may be misdiagnosed as another disease, which delays the correct treatment.

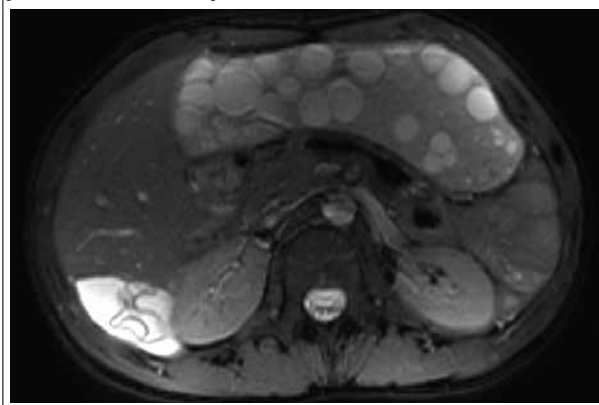
Treatment strategies pertaining to cystic echinococcosis have been widespread and widely discussed.³ The (laparoscopic) surgical approach seems safe and the objective of surgery is to remove parasitic cysts and fluid completely, a major advantage compared with other types of treatment. But controversies still exist about the preferred operating technique.⁴ Since 1986, Puncture Aspiration Injection Re-aspiration (PAIR) has been proposed as an alternative to surgery. After percutaneous puncture under ultrasonographic guidance, a complete aspiration is performed; the residual cavity is then filled with a

Figure 2. The liver contains several cysts



protoscolicide, usually ethanol, and re-aspired ten minutes later.⁵ With multiple cysts and multiple initial locations, as in our patient, recurrence in multiple organs and especially in the peritoneum represents a good indication for chemotherapy alone,⁶ which may also be the first step before a hazardous operation in complicated cases. Albendazole is usually preferred at an average daily dosage of 15 mg/kg/day; it must be given continuously, without those treatment interruptions which were recommended in the past. Blood count and transaminases must be checked every week for the first month and every month thereafter. Our patient was treated with albendazole 400 mg twice daily and she was referred to a tertiary centre.

Figure 1. On the ventral side several cysts are present. On the right dorsal sight a waterlily sign is present probative for *Echinococcus* infection



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