CASE REPORT

Hydatid cyst of liver

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Hydatid disease of the liver is still endemic in certain parts of the world. The diagnosis of non-complicated hydatid cyst of the liver depends on clinical suspicion. Ultrasonography and computed tomography, the most important diagnostic tools, are helpful for determining the complications and planning treatment. The modern treatment of hydatid cyst of the liver varies from surgical intervention to percutaneous drainage or medical therapy. Surgery is still the treatment of choice and can be performed by the conventional or laparoscopic approach. Percutaneous drainage and treatment of the cyst with hypertonic saline or alcohol seems to be a good alternative to surgery in selected cases.

Hydatid disease is a parasitic infestation of humans caused by *Echinococcus granulosus*. Dogs and some wild carnivores like foxes are definitive hosts, harbouring worms in their intestine. Eggs are passed in the faeces and eaten by the intermediate hosts, and larvae encyst in the liver, lungs, and other organs.

CASE REPORT

A 71 year old woman presented to the radiology department for an ultrasound examination of her abdomen, although the abdominal pain, which was the initial problem, had disappeared and she felt fine. She also informed us that she had lived for a few years in Australia and since then her abdomen had been slightly rigid but this was not a problem as her general health was good. There was no other concerns to indicate referral for ultrasound.

Ultrasound revealed a huge mixed echogenic predominantly cystic mass in the region of the liver. The normal liver parenchyma was replaced with this cystic septated mass (fig 1); the liver parenchyma was not visible. There were a few specks of calcification and septation was also noted. The right kidney was displaced to the midline by this mass. Because of the nature of the mass a provisional diagnosis of hydatid cyst was made and she was referred for urgent computed tomography. The computed tomogram revealed a large cystic mass with septations that had almost completely replaced the right lobe of the liver (figs 2 and 3). A diagnosis of hydatid cyst was made. Further investigations like complement fixation confirmed this diagnosis.

DISCUSSION

In humans hydatid disease is caused by the larvae of a flat tapeworm, *E granulosus*. It is seen worldwide and is endemic in some areas, such as Australia and the Middle East, including Iran. The life cycle alternates between herbivores and carnivores—for example, sheep and dogs; man is an accidental intermediate host and an end point in the parasite's life cycle. The sheep ingests the egg and the egg hatches in the small intestine and the larval tapeworm burrows through the

Figure 1 Ultrasound scan of liver showing enlarged liver with septations and a daughter cyst within right lobe.

Figure 2 Computed tomogram of liver showing a multiseptated cystic mass almost completely replacing right lobe of liver.

intestinal wall and travels to the liver via the blood. The hydatid cyst develops in the liver, lungs, brain, or other organ. When a dog eats the sheep viscera and ingests the hydatid cyst, the protoscolices attach to the small intestinal wall and the worms begin to form proglottids. Gravid proglottids, containing the eggs, detach from the end of the worm and spill their eggs into the lumen of the intestine. The eggs pass out in the faeces. Animals like cows and sheep become infected by eating the contaminated grass. Contaminated vegetables are the culprit in human infestations.

Treatment

Hydatid cyst of the liver must be treated surgically.^{1 2} Albendazole 10 mg/kg/day for 3–6 weeks before surgery should be given to sterilise the cyst. During surgery special care should be taken not to spill the hydatid fluid. Precautions include packing the area with povidone iodine soaked sponges, aspiration of some of the hydatid fluid to reduce the tension, instillation of a scolicidal agent like hypertonic saline, and use of a suction cone.^{3 4} The pericyst is incised so that the hydatid cyst extrudes. The cyst is usually held with a sponge

Figure 3 Computed tomogram of liver showing that right lobe of liver is replaced by the cystic mass; there is also involvement of left lobe.

holder and removed very carefully (with daughter cysts inside). The residual pericystic cavity can be partially excised, filled with saline, and closed or obliterated with multiple purse string sutures. If endoscopic retrograde cholangiopancreatography reveals any daughter cysts in the common bile duct the duct should be explored, cleared, and drained with a T tube. After the operation the patient should continue albendazole for at least 6–8 weeks to clear up any spilled hydatid fluid containing live scolices.⁵

Recent reports of percutaneous aspiration and obliteration of hydatid cyst of liver with sclerosant have appeared in the literature, but the role of this treatment method still remain unproved.^{6,7}

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