Primary paraspinal hydatid cyst: A rare presentation of Echinococcosis

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ARTICLE INFO

Article history:
Received 5 December 2009
Accepted 27 April 2010
Available online 26 May 2010

1. Introduction

Hydatid disease is endemic in most cattle rearing areas, particularly Australia, New Zealand, Mediterranean countries, India, Africa and South America. It is often manifested by a slowly growing cystic mass, with hepatic and pulmonary involvement being most common. Unusual sites of involvement frequently cause diagnostic problems and hence delay in diagnosis and many serious complications. Primary skeletal muscle involvement is very rare. We present a case of hydatid disease of lumbar paraspinal muscles in a middle aged female, who presented to the General Surgery clinic at our Institute.

2. Case summary

A 40 year old female presented with chief complaints of pain in left lumbar region for the last four months. The pain was dull, boring and non-colicky in character without any radiation. There were no gastrointestinal or urinary symptoms or any history of fever. There was no significant previous surgical or medical history. There were no neurological symptoms. General physical examination of the patient was unremarkable. Abdominal examination revealed non-tender, immobile, non-ballotable, cystic swelling in the left paravertebral region without any deformity of adjacent spine. The swelling did not increase in size on coughing or by Valsalva’s maneuver. A plain X-ray abdomen did not reveal any abnormality. USG abdomen showed an enlarged right kidney with left cystic kidney (? Dysplastic kidney). CECT abdomen revealed absent left kidney and a non-enhancing cystic mass in the left paraspinal muscles with low attenuation value (Fig. 1). The mass contained multiple septa and did not seem to communicate with peritoneal cavity or spinal canal. The adjacent spine was normal. There were no similar cystic masses in any other abdominal viscera. On the basis of CT findings, a suspicion of hydatid cyst was made and hydatid serology was ordered. ELISA for Echinococcus granulosis was reported as positive.

Patient was subjected to surgery after a proper workup. The cyst was excised en-masse by posterior approach. About 20/² cm multilocular cyst was found within the paraspinal muscles extending up to the rib cage posteriorly. The operative area was packed with sponges soaked in 1% cetrimide for 7 min (Fig. 2). The excised specimen on opening showed the characteristic laminated membranes (Fig. 3).

3. Discussion

Hydatid disease or Echinococcosis (or hydatidosis) is a parasitic disease caused by infection with larva (metacestode) of the cestode Echinococcus. Four species of the genus Echinococcus are known to cause infection in humans: E. granulosus (cystic hydatid disease), E. multilocularis (alveolar hydatid disease), E. vogeli and E. oligarthrus (both causing polycystic hydatid disease). E. granulosus is a 5 mm long tape worm and requires two hosts for completion of its life cycle. The carnivores (dogs, wolves etc) are the definitive hosts, harboring mature tape worms in their intestines. Human beings are the accidental hosts and dead end in the life cycle of tape worm. The life cycle is completed when the carnivores eat the infected offal of the intermediate host. The carnivores (dogs, wolves etc) are the definitive hosts, harboring mature tape worms in their intestines. The herbivores act as intermediate hosts who ingest the eggs from which the embryos escape, penetrate the intestinal mucosa, enter the portal circulation and are then trapped in liver and a few may escape into the systemic circulation. The life cycle is completed when the carnivores eat the infected offal of the intermediate host. Human beings are the accidental hosts and dead end in the life cycle of tape worm. Hydatid cyst consists of a fluid filled cavity lined by three layers: pericyst (host reaction), ectocyst (laminated membrane) and endocyst (germinal layer) which gives rise to laminated membrane and secretes hydatid fluid. The hydatid cysts may potentially inhabit any part of the body. The liver (59–75%) and
lungs (27%) are most commonly involved organs, with other organs like kidney (3%), bone (1–4%), brain (1–2%), heart, spleen, pancreas, breast and muscles being very rarely affected. Most patients with muscle hydatid will have associated hepatic cysts. There have been a few case reports citing hydatid cysts in adductor muscles of thigh, pectoralis major muscle, gluteal and neck muscles and rectus and spinal muscles. Our patient presented with a primary hydatid cyst of the paraspinal muscles of back (without any evidence of Echinococcosis in other anatomic sites of body) which has been reported only once in medical literature.

The echinococcal cysts grow very slowly and generally remain asymptomatic. Five to 20 years elapse before cysts enlarge sufficiently to become symptomatic. Clinical manifestation depends on the anatomic site involved and usually manifest as a slowly growing palpable mass. Symptoms due to compression of adjacent structures are not uncommon. Anaphylactic reaction due to cyst rupture and secondary infections are the most common complications. Protein manifestations are not unknown with epilepsy and raised intracranial pressure (cerebral cysts), choledochal cyst, pulmonary hypertension and portal hypertension due to hydatid cysts being reported in literature. The case being reported by us presented with low back ache and a soft left lumbar swelling.

Serology and imaging are the main tools for establishing diagnosis. Various serological tests detect specific serum antibodies or circulating antigens and include ELISA for Echinococcal IgG (sensitivity 95%, specificity 94%). Immuno-electrophoresis (IEP), Haemagglutination tests etc. Plain X-ray, USG, Computed tomography (CT) and Magnetic resonance imaging (MRI) are the various imaging modalities utilized to visualize the cyst. The characteristic features of the hydatid cyst on CT and MRI help in establishing the diagnosis with high accuracy. The case under discussion had a type II cyst (Lewail).

Therapy for extrahepatic echinococcal disease is dependant on size, location and manifestation of the cyst and the health status of the patient. Asymptomatic small cysts can be managed with anti-helminthic drugs. Surgery is the mainstay of treatment for large, symptomatic cysts. Radical or conservative approach can be adopted depending on the clinical situation. Total cystectomy carries least risk of recurrence but is associated with high morbidity. Simple deroofing and enucleation of the cyst is appropriate for intraperitoneal cysts firmly embedded in the viscera. Care is taken to prevent spillage. Various methods are available to manage the residual cavity. Puncture— aspiration— injection— reaspiration (PAIR) refers to an ultrasound guided technique consisting of puncture and evacuation of the contents of the hydatid cyst; injection of scleroidal agents such as 95% ethanol; and reaspiration of the contents of the cyst. Although, puncture of a hydatid cyst has long been discouraged because of potential complications, such as anaphylactic shock or risk of iatrogenic spreading, there is an expanding literature suggesting that PAIR is effective for treatment of primary uncomplicated hepatic cysts. However, this technique has been used in a recent study as a modality for muscular hydatid cyst also.

We performed total cystectomy in our patient and obliterated the cavity by captionage.

4. Conclusion

In endemic areas, cystic lesions anywhere in the body, in appropriate patient group, should be evaluated for hydatid disease. The present serological and imaging modalities help in establishing the diagnosis with high accuracy. Treatment varies from medical management to radical surgical excision.

Conflict of interest
There is no conflict of interest involved.

Funding
No source of funding is involved for this research.

Ethical approval
Ethical Committee SKIMS, no numbers are given.
References


