

Case Report

Complicated primary Hydatid Cyst in brachioradialis muscle: An extremely unusual site

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Abstract

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Muscular hydatid cyst is a rare entity and usually associated with cysts in liver or lung. We present an unusual case of a primary hydatid cyst found in the right arm brachioradialis muscle of a 40-year-old man, presenting as a tender mass after blunt trauma. Magnetic resonance imaging examination revealed an intramuscular hematoma in the distal of her right arm, and no disease at any other location. The mass was excised radically. Macroscopic and microscopic histopathological examinations confirmed the diagnosis of muscular hydatidosis.

Key words: Brachioradialis muscle, Cysts. Complicated primary Hydatid Cyst

INTRODUCTION

Hydatid disease is due to infection by the tapeworm *Echinococcus granulosus*. It is most common in sheep-raising areas, where dogs have access to infect all. Most cysts are caught in the hepatic sinusoids, and therefore 70% of hydatid cysts form in the liver. It has been hypothesized that the lactic acid presence in the muscles does not allow the larvae to grow into cysts (Garcia-Diez et al., 2000). Nevertheless, Primary musculoskeletal hydatidosis is very rare and represents 1%–5% of all cases of echinococcosis (Basarir et al., 2008). Sometimes, unusual imaging appearance because of complicated cysts can make diagnosis difficult (Alouini et al., 2005). We reported a unusual case of primary intramuscular hydatid cyst in a man presented as a soft-tissue mass in the right arm, making diagnosis very difficult. Regardless of the site involved, hydatid cyst should always be considered in the differential diagnosis of any cystic and solid lesion.

Case Report

A 40-year-old male patient came with history of painful mass per right distal arm after blunt trauma for 2 months. No history of previous surgery or hospitalization was present. On examination, a mass of 5 x 5 cm was noted

in the right distal arm. The swelling had smooth surface with ecchymosis and firm in consistency. There was no history of infectious diseases and rheumatologic problem. Vital sign was stable. Chest and abdomen examination was normal. Chest X ray and Ultrasonography of chest and abdomen was normal. There were no signs of inflammation of the superficial skin or lymphadenopathy. Complete laboratory data were normal. Plain X-rays of the right arm showed no bone involvement. Primary ultrasonography reported partial brachioradialis muscle rupture and the patient treated with splint and physiotherapy for 2 weeks. After this time the symptoms of patient was not resolved. For more evaluation, MRI was done due to increased pain and unresponsiveness. MRI reported hematoma measuring 5x6 cm in brachioradialis muscle with hemosiderin deposition, fibrotic boundless and neurovascular boundless displacement (Figure 1, 2). Based on MRI report and probably diagnosis was complicated hydatid cyst of arm. Serologic test (ELIZA) was negative. The patient was candidated for surgery. We carefully isolated the entire cyst from the surrounding muscles and excised the mass with pricyst. postoperative the mass was cutted and laminated membrane presented (Figure 3). The operative field irrigated with hypertonic saline. Histopathological examination confirmed the diagnosis of hydatid cyst.



Figure 1, 2. MRI in two view show: hemosiderin deposition, fibrotic boundless, neurovascular boundless displacement and laminated membrane in the brachioradialis muscle, suspicious to complicated hydatid cyst



Figure 3. Postoperatively show Germinative, laminated membrane and daughter cysts

Postoperative period was uneventful. Albendazole (800 mg daily) was given for a period 3 month. In the two year follow – up, the patient was in good condition.

DISCUSSION

Hydatid disease or echinococcosis is a zoonosis that occurs primarily in sheep-grazing areas of the world, but is common worldwide because the dog is a definitive host. Echinococcosis is endemic in Mediterranean countries, the Middle East, Far East, South America, Australia, New Zealand, and East Africa. Humans contract the disease from dogs but there is no human to human transmission (Dziri et al., 2009; Agayev and Agayev, 2008; Aghajanzadeh et al., 2008). Hydatid cysts are diagnosed in the same numbers of men and women at an average age of about 45 years. Hydatid cyst is a condition commonly affecting liver (80%) and lungs (15%) (Aghajanzadeh et al., 2008; Aghajanzadeh et al., 1999). Muscular hydatid cysts may be primary, although can be

secondarily when it spread from other areas, either spontaneously or after previous operations for hydatidosis in other body regions. Musculoskeletal echinococcosis is very rare because few embryos can escape the capillary filtering systems of the liver and lung (Garcia-Diez et al., 2000; Basarir et al., 2008). It has been suggested that muscle is inhospitable for hydatid infestation and provides a poor environment for the parasite because of the presence of lactic acid (Aghajanzadeh et al., 2008; Aghajanzadeh et al., 1999). The clinical presentation of a hydatid cyst is largely asymptomatic until complications occur as our case. The diagnosis is usually easy in imaging by ultrasonography (US), Computed Tomography (CT) and magnetic resonance imaging (MRI). Sometimes, unusual imaging appearance because of complicated cysts can make diagnosis difficult (Mseddi et al., 2005). Enzyme-linked immunosorbent assay (ELISA) for echinococcal antigens is positive in approximately 85% of infected patients. Eosinophilia is seen in approximately 30% of infected patients (Pedrosa et al., 2000). The preoperative

radiological diagnosis is important to avoid biopsy and prevent local recurrence and risks of anaphylaxis (Aghajanzadeh et al., 2008). Surgical excision of the cyst considered as only effective treatment and is still the treatment of choice (Alouini Mekki et al., 2005). In our case we radical removal of the Germinative laminated membrane and daughter cysts and pericyst. If invasion of cyst to the vital structures was present and total excision was not possible, partial pericystectomy is an alternative procedure.

CONCLUSION

Hydatid cysts in soft tissues are an unusual presentation of hydatid disease and should always be considered in the differential diagnosis of any cystic mass lesions, regardless of its location, especially in countries which *Echinococcus* are endemic for until proven otherwise. The diagnosis should be achieved by the clinical aspects, the imaging and immunological tests. Radical excision with albendasol have good outcome.

Competing Interests

The authors declare that they have no competing interests.

Authors' contributions

M.A performed the surgery and prepared the manuscript. MS. ED assisted in drafting the manuscript and reviewed the article. All authors read and approved the final manuscript.

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Consent

Written informed consent was obtained from the patient for publication of this case report and the accompanying images. A copy of the written consent is available for review by the Editor of this journal.

REFERENCES

- Agayev RM, Agayev BA (2008). Hepatic hydatid disease: Surgical experience over 15 years. *Hepatogastroenterology* 55:1373–1379
- Aghajanzadeh M, Molaie R, Aghajanzadeh H, Marandi K (1999). Hydatid cyst as a cause of Pancoast's syndrome. *Arch Iran Med.* 2
- Aghajanzadeh M, Safarpour F, Amani H, Alavi A (2008). One-stage procedure for lung and liver Hydatid cysts. *Asian CardiovascThorac Ann.* 16: 392 – 395.
- Alouini Mekki R et al. (2005). Kystehydatique des tissusmous :apport
- Alouini Mekki R et al. (2005). Kystehydatique des tissusmous :apport del'IRM (à propos de trois observations) [Hydatid cyst of soft tissues: MR imaging findings (Report of three cases)]. *Journal de Radiologie*, 86:421–425.
- Basarir K et al. (2008). Primary muscular hydatidosis mimicking soft del'IRM (à propos de trois observations) [Hydatid cyst of soft tissues: MR imaging findings (Report of three cases)]. *Journal de Radiologie*, 86:421–425.
- Dziri C, Haouet K, Fingerhut A, et al., (2009). Management of cystic echinococcosis complications and dissemination: Where is the evidence? *World J Surg* 33:1266–1273
- Garcia-Diez AI et al., (2000). MRI evaluation of soft tissue hydatid disease. *European Radiology*, 10:462–466.
- Mseddi M et al. (2005). Kystehydatiquemusculaire: a propos de 11 cas [Hydatid cysts in muscles: eleven cases]. *Revue de chirurgie orthopédique*, 91:267–271.
- Pedrosa I, Saiz A, Arrazola J, Ferreiros J, Pedrosa CS (2000). Hydatid disease: radiologic and pathologic features and complications. *Radiographics.* 20(3):795.
- tissuetumour: a report of five cases. *Journal of Orthopaedic Surgery*, 16:368–372.