

## PRIMARY MUSCULAR HYDATID CYST: A RARE OCCURRENCE.

## Pathology

**P R Kshirsagar** Junior Resident, Dept Of Pathology, Vdgm, Latur.

**U S Kanade** Professor And Head, Dept Of Pathology, Vdgm, Latur.

**S Y Swami.** Associate Professor, Dept Of Pathology, Vdgm, Latur.

## ABSTRACT

Hydatid disease is a parasitic infection caused by tapeworm echinococcus. The muscular localization of the hydatid cyst is extremely rare, usually secondary to hepatic or pulmonary disease and often clinically mistaken as soft tissue mass. Primary muscular hydatid cyst comprises less than 0.5 % of the cases. Preoperative diagnosis is mandatory to avoid surgical contamination or future accidents.

## KEYWORDS

Hydatid, Muscle, Cyst.

## INTRODUCTION

Hydatid disease is caused by the cestode parasite (tapeworm) *Echinococcus granulosus*.<sup>1</sup> The muscular localization of hydatid cyst is extremely rare, usually secondary to hepatic or pulmonary disease.<sup>2,3</sup> It is often clinically mistaken as neurofibroma or lipoma.<sup>4</sup> Primary muscular hydatid cyst comprises less than 0.5 % of the cases.<sup>3</sup> Preoperative diagnosis is mandatory to avoid risks of anaphylaxis, surgical contamination, and future accidents.<sup>4</sup> Here we report a rare case of primary muscular hydatid cyst in a patient who presented with solitary arm swelling which was mistaken as peripheral nerve sheath tumor preoperatively.

## Case Report

A 60-year-old female, presented with [Fig.1] a painless, progressively growing, mobile, soft tissue swelling of size 5 x 4 cms, over the medial aspect of left arm for 45 days. No previous history of trauma. Local USG [Ultra Sonography] was suggestive of benign infected cystic lesion. MRI [Magnetic Resonance Imaging] [Fig.2: A, B] was suggestive of cystic benign peripheral nerve sheath tumor. FNAC [Fine needle aspiration cytology] [Fig.3: A, B] revealed hooklets and hydatid sand [Protoscolices]. The swelling was totally excised [Fig.4] and sent for histopathological examination. Histopathology [Fig.5: A, B] revealed laminated layer of cyst wall with hydatid sand composed of protoscolices and brood capsule.



Fig 1

Fig 3A

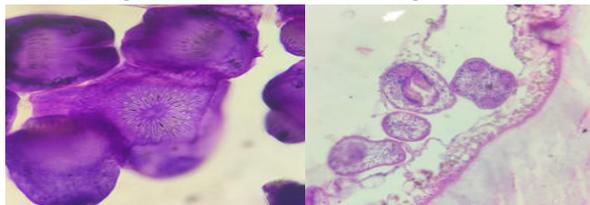


Fig 3B

Fig 5A



Fig 2A

Fig 2B

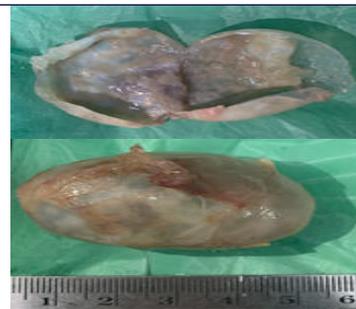


Fig 4



Fig 5B

**Fig. 1:** Clinical photograph of swelling over medial aspect of left forearm.

**Fig. 2 A, B:** MRI showing cystic cavity in the intramuscular plane.

**Fig.3:A, B:** FNAC cytology smear showing hooklets and scolices with row of hooklets of echinococcus granulosus. [PAP: 10x; 40 x]

**Fig.4:** Gross showing excised cyst of size 5 x 3.5 cm with granularity on cut surface.

**Fig.5:A, B:** Photomicrograph showing lamellated membrane and germinal layer of the cyst wall with attached protoscolices & brood capsule. [H&E: 10x; 40x].

## DISCUSSION

Hydatidosis is a parasitic and zoonotic disease which is most observed in Mediterranean countries.<sup>5</sup> This disease can present at any age, but the peak is between the third and fifth decades.<sup>6</sup> Hydatid disease most frequently infects liver followed by lungs.<sup>7</sup> Muscular hydatid in the extremities is extremely rare occurrence due to the contractile nature of muscle and lactic acid content which hampers the growth of the cyst which makes it rare site for this disease.<sup>3,6</sup>

In the present study, primary muscular hydatid cyst in the upper extremity (Left arm), is rare and was also found in the study done by Talal G, R Alatassi and S Tuna et al.<sup>3,6,8</sup>

Age of the patient in the present study was 60 years comparable to the study done by Mehmet HA et al. Patients are typically asymptomatic, and the cyst presents as a slow growing soft tissue tumour.<sup>9</sup> The clinical presentation of patient in our study is painless mass. The patient did not have any evidence of hydatid disease elsewhere in the body.

The diagnosis of hydatid cyst mainly depends on clinical history, diagnostic radiological and serologic tests. 1,3 Sensitivity of serology is high (80- 100%) for liver cysts, but low for lung (50- 56%) and other organs (25- 56%). Importance of these tests lies mainly in the follow up of treated patients. An increase in titer indicates recurrence of disease and a decrease in titer indicates resolution. 1

Imaging modalities like USG, CT and MRI remain more sensitive than serodiagnosis. 1,9 An evaluation by imaging is mandatory to avoid any rupture of the cyst during surgery. Due to the high risk of spreading of infection and the potential for resulting in an anaphylactic shock, needle biopsy should be avoided. 8

USG is beneficial to determine the dimensions, localization of the mass and the type of the cyst with a 95% sensitivity. MR is the gold standard for the diagnosis and detection of the cystic lesions with a two-layer membrane of the lesion. 8

## CONCLUSION

Solitary primary muscular hydatid without systemic involvement can be confused with the soft tissue tumors and hence one should be aware of unusual sites for the appearance of hydatid cysts.

## REFERENCES:

1. N Sultana, TK Hasim, SY Jan, Z Khan, T malik, W Shah. Primary cervical hydatid cyst: A rare occurrence. *Diag Pathol* 2012;7: 152- 157.
2. Talal G, Saudi F, Ouazzani N, Fekhaoui MR, Boufetal M, Reda AB, Saleh BM. Intermuscular hydatid cyst isolated from the Arm. *J Ortho Bone Disord* 2018, 2: 160.
3. Mehmet HA, Levent C, Gökhan K, İsmail S. Imaging characteristics of three primary muscular hydatid cyst cases with various patterns. *Kafkas J Med Sci* 2012; 2: 74- 77.
4. Datta S, Banerjee A, Banerjee U. Subcutaneous hydatid cyst in forearm: A diagnostic dilemma with neurofibroma. *Bang J Med Sci* 2016; 15: 634- 36.
5. A Banerjee, E Elangovan, KS Mitra, A Saha. Labial hydatid cyst- A rare entity. *J Oral Maxillofac Pathol* 2019;23:418-21.
6. R Alatassi, S Koaban, M Alshayie, I Almogbil. Solitary hydatid cyst in the forearm: A case report. *Int J Surg Case Reports* 2018; 51: 419- 24.
7. AB Beigh, MM Darzi, S Bashir. Gross and histopathological alterations associated with cystic echinococcosis in small ruminants. *J Parasit* 2017; 41: 1028- 33.
8. S Tuna, TM Duymus, HS Yanik, MO Durakbasa, S Mutlu, S Erdem. Hydatid cyst of biceps brachii associated with peripheral neuropathy. *Int J Surg Case Reports* 2015; 8: 150- 53.
9. IH Bouraoui, O Essid, H Boughammoura, N Arifa, R Frikha, H Jemni, KT Graiess. Forearm hydatid cyst: An unusual presentation. *EMHJ* 2011; 17: 994-95