

Hydatid Cyst of the Para-Spinal Muscles

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Abbreviations: FNAC: Fine Needle Aspiration Cytology; HD: Hydatid Disease; HC: Hydatid Cyst; CE: Cystic Echinococcosis

1. Abstract

Hydatid cyst is a rare parasitic illness endemic in various regions of the world and mostly affects the liver. It is brought on by the Echinococcus tapeworm in its larval form. It is uncommon for hydatid cysts to occur in organs like the spine, muscles, and bones. With a prevalence of less than 0.5% in the literature, para-spinal involvement is a rare clinical condition. We describe a 50-year-old woman who had been experiencing painless swelling in the para-spinal region of her upper back for the past two years. Soft tissue ultrasound revealed a multi-loculated cystic mass, FNAC was inconclusive, and biopsy was advised. The patient underwent surgery, and the cystic mass was completely removed from the patient. Histopathological evaluation confirmed the diagnosis of hydatid cyst. Echinococcus granulosus is the zoonotic pathogen that causes hydatid disease. Surgery is the mainstay of treatment. Any area of the host body may develop parasitic cysts; however, the liver and lungs are the most commonly involved organs. It is uncommon for these lesions to appear in some areas of the body, including the para-spinal muscles. Few cases of hydatid illness in the para-spinal region have been documented to date, with a prevalence of less than 5%. But when treating a cystic lesion in any part of the body, particularly in endemic locations, hydatid disease should be on the differential diagnosis list.

2. Introduction

The cause of hydatid disease is infection with the larval or cystic

stage of the tapeworm Echinococcus granulosus [1]. Canids are infected by consuming sheep viscera with hydatid cysts and harbour the tapeworm [1,4]. Therefore, regions where sheep are raised and dogs have access to contaminated offal are more likely to have hydatid disease [1,4]. These areas include New Zealand, Greece, Spain, Australia, South America, the Middle East and generally countries with a low socio-economic status [1,4]. It commonly develops in the right lobe of the liver (65-75%) and lungs (25-30%) [1,7]. It is uncommon for other organs such as the myocardium, pericardium, spleen, muscles, and bones to become involved [1,8]. Because of the adverse environment created by this organ's lactic acid production, muscular hydatid cysts are rare [1,6]. It makes up only 2-3% of all cases of illness [1,6].

3. Case Report

A 50-year-old woman presented with a lump in the para-spinal area of her upper back that had been there for two years but was otherwise asymptomatic. On local examination, a single swelling measuring 15 x 20 cm was noted in the para-spinal region of the upper back which was firm in consistency having well-defined borders. Soft tissue ultrasound revealed a multi-loculated cystic mass, however FNAC was inconclusive, and biopsy was advised. Under general anaesthesia, the patient underwent excision in toto, and the specimen was sent for histological analysis. Grossly, the specimen measured 15 x 20 cm with multiple daughter cysts encapsulated by a cyst wall, as shown in Figure 1.

Histopathological examination confirmed a hydatid cyst. After the final diagnosis of hydatid cysts originating from the para-spinal muscles of the upper back, the recovery from surgery went smoothly. The patient is doing well and there has been no sign of a recurrence during the six-month follow-up period (Figure 2).



Figure 1: A hydatid cyst measuring 20 x 15 cm containing numerous daughter cysts.

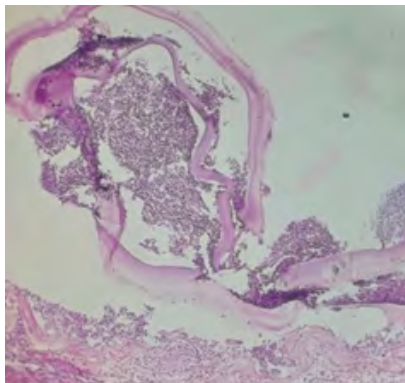


Figure 2: Microscopic picture of hydatid cyst

4. Discussion

The larval stage of a tapeworm from the *Echinococcus* genus—mostly of the species *Echinococcus granulosus*—causes echinococcosis [1]. A definitive carnivore host feeds off an intermediate herbivore host in the life cycle of *Echinococcus granulosus*. The definitive host's small intestine is home to the adult *Echinococcus granulosus* [1,4]. The eggs are expelled in the faeces, where they hatch in the small intestine and release 'oncospheres' upon consumption by an appropriate intermediate host [1,4]. They enter the body by penetrating the intestinal wall and move into other organs, including the liver and lungs, via the circulatory system [1,6]. In these organs, the on-cospheres transform into a thick-walled hydatid cyst that progressively grows, releasing 'protoscolices' that evaginate and adhere to the intestinal mucosa before finally maturing into the adult phase [1]. Humans are aberrant intermediate hosts and become infected by ingesting the parasite eggs [1,4]. In

the event that the cysts rupture, the released protoscolices could form new cysts elsewhere in the body (secondary echinococcosis) [1,2]. Cystic echinococcosis most commonly affects the liver and lungs, but it can affect any part of the body [1,2]. According to Geramizadeh, the musculoskeletal system is the fifth most prevalent site of cystic echinococcosis, after the lungs, liver, central nervous system, and orbit [1,2]. Even less common is involvement of the para-spinal area [1,3]. The majority of cases of muscular cystic echinococcosis are linked to hepatic involvement [1,6]. Muscle contraction and high lactic acid levels provide a hostile environment for the cyst to cling to and thrive in [1]. The inferior vena cava, via the portal system, from where the parasite gains access to the lumbar plexus during the Valsalva manoeuvre (that occurs during daily activities), is the suggested mechanism for the parasite's translocation to para-spinal muscles [1,3]. Non-specific clinical findings of CE make it difficult to diagnose the disease only based on physical examination [1,10]. Depending on the size and location of the cyst, CE might develop slowly and finally show symptoms when it exerts pressure on nearby organs and structures [1,10]. It may present with pain, palpable mass, obstruction of organs and ducts leading to swelling, inflammation and infection [1,8]. Different serological tests such as ELISA for anti-echinococcal antibody, haemagglutination test, immunoelectrophoretic (IEP) have been tried with varying success. ELISA has been reported to have a sensitivity and specificity rate of 95% and 94% respectively [1,9]. In most cases, surgery is the best course of treatment for hydatid cysts [1,5]. Non-toxic scolocidal medicines or combination chemotherapy, especially with albendazole, may be a suitable alternate option in cases with recurrence and high risk of contamination [1,5].

5. Conclusion

Just a few cases of hydatid cysts of the para-spinal muscles have been documented to date, making them an incredibly uncommon clinical entity. In summary, hydatid cysts should be considered when making a differential diagnosis for cystic lesions in any part of the body, especially in regions where they are endemic. Making the final diagnosis can be greatly aided by radiological evaluations. Among a number of techniques, surgical excision of the lesion is the preferred therapeutic approach.

References

1. Khorshidi H, Taghipour M, Moslemi M, Farsangi LE. Hydatid Cyst of Para-Spinal Muscles as a Rare Cause of Back Pain in a Woman: A Case Report and Review of Literature. 2020; Case Reports in Clinical Med; 9(7).
2. Geramizadeh B. Unusual Locations of the Hydatid Cyst: A Review from Iran. Iranian Journal of Medical Sciences. 2013; 38: 2-14.
3. Sadeghian H, Motiei-Langroudi R. Hydatid Cyst in the Lumbar Paravertebral Muscle: A Case Report. Cureus. 2019; 11: e5353.
4. Grosso G, Gruttadauria S, Biondi A, Marventano S, Mistretta A.

Worldwide Epidemiology of Liver Hydatidosis Including the Mediterranean Area. *World Journal of Gastroenterology*. 2012; 18: 1425-37.

5. Velasco-Tirado V, Alonso-Sardón M, Lopez-Bernus A, Romero-Alegria A, Javier Burguillo F, Muro A. Medical Treatment of Cystic Echinococcosis: Systematic Review and Meta-Analysis. *BMC Infectious Diseases*. 2018; 18: 306.
6. Atalay F, Orug T, Arda K, Tosun O. An Unusual Case of Hydatid Disease Located in the Erector Spinae Muscle. *JBR-BTR*. 2003; 86: 329-31.
7. Polat P, Kantarci M, Alper F, Suma S, Koruyucu MB, Okur A. Hydatid Disease from Head to Toe. *Radiographics*. 2003; 23: 475-94.
8. Engin G, Acunas B, Rozanes I, Acunas G. Hydatid Disease with Unusual Localization. *European Radiology*. 2000; 10: 1904-12.
9. Shambesh MA, Craig PS, Macpherson CN, Rogan MT, Gusbi AM, Echtuish EF. An Extensive Ultrasound and Sero-logic Study to Investigate the Prevalence of Human Cystic Echinococcosis in Northern Libya. *The American Journal of Tropical Medicine and Hygiene*. 1999; 60: 462-8.
10. Dahniya MH, Hanna RM, Ashebu S, Muhtaseb SA, el-Beltagi A, Badr S, et al. The Imaging Appearances of Hydatid Disease at Some Unusual Sites. *The British Journal of Radiology*. 2001; 74: 283-9.