

Case Report

Primary Subcutaneous Hydatid Cyst in Scapula

Tahereh Mirzaei, Hossein Hooshyar

Dept. of Parasitology, Kashan University of Medical Sciences, Kashan, Iran

ABSTRACT

Hydatid disease, caused by larval stage of *Echinococcus granulosus*, is a common parasitic infection of human and animal. Although liver and lung are the most commonly affected area, hydatid cyst may develop any part of the body. Primary subcutaneous hydatid cyst is extremely rare. We report a case of 54 years old man who presented with palpable mass in scapular region from 3 years ago. Present and past medical history was not significant finding. Pathologic evaluation identified the cystic structure as unilocular hydatid cyst. Primary hydatid disease constitutes a potentially serious differential diagnosis of any subcutaneous mass in endemic area of hydatid disease.

Key word: Hydatid Cyst, Subcutaneous Tissues, Iran

Introduction

Hydatid disease is a parasitic disease of human and other mammals caused by larval stage of *Echinococcus* genus. Human infection with this metacestode can take one of three forms: unilocular hydatid cyst caused by *E. granulosus*, multilocular cyst or alveolar hydatid cyst caused by *E. multilocularis*, and polycystic form caused by *E. vogeli* (1,2).

Member of the canine family are definitive host for these small tapeworms. Human are infected following the accidental ingestion of eggs from the environmental sources (3).

Hydatid disease is often manifested by a slowly growing cystic mass. The mainly involved organ is the liver (75%), followed by the lung (15%)

and the rest of other organs (10%) of the body (4-8). The liver, lung, kidney, and spleen are the most commonly affected organs with infection of bone, thyroid, breast, pancreas and subcutaneous rarely encountered. Musculoskeletal hydatidosis is very rare and represent in 1-5.4% of all cause of human hydatidosis on clinical basis and infection mimics a soft tissue tumor (9).

Subcutaneous hydatidosis is extremely rare and is usually associated with involvement of other organs. There are few reports of primary subcutaneous hydatidosis and the incidence of is 1.5% in endemic areas, however real incidence can be different (9-11). In this article, we describe a case of unusual localized chronic hydatid cyst in the subcutaneous tissue.

Received: 16 January 2012

Accepted: 21 April 2012

Address communications to: Dr Tahereh Mirzaei, Department of Parasitology, Kashan University of Medical Sciences, Kashan, Iran

Email: labmirzaee@yahoo.com

Case Report

A 54-year-old man who lives in Kashan was hospitalized in Sep 2010 with a slowly growing, slightly tender mass of the posterior aspect of the right scapula, which had been developed slowly for 3 years prior to admission. He was a farmer and had not any close contact with dogs. Present and past medical history did not show any significant finding. The preoperative diagnosis of cutaneous mass had been soft tissue tumor, e.g. lipoma. The cutaneous mass surgically was excised from overlying skin. In macroscopic finding, this cutaneous mass had a typical appearance of a cystic formation filled with clear fluid and is 2 cm in diameter.

Microscopy pathologic examination identified the cystic structure as unilocular hydatid cyst. The cyst wall was a thick outer laminated, non-cellular layer, which covered the thin germinal epithelium. The cyst contained numerous broad capsules and protoscolices, which proliferated from germinal membrane (Fig.1).

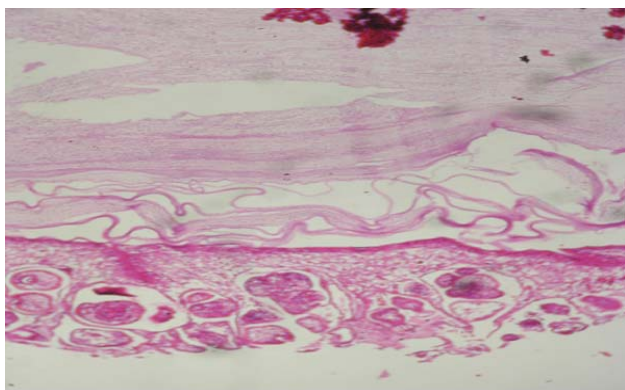


Fig. 1- Hydatid cyst wall in subcutaneous tissue (Source: Authors)

After removing the cutaneous cyst, ultrasonography of liver and chest x-ray were typical and unremarkable. Routine laboratory tests generally do not show any specific results.

Discussion

Hydatidosis is a zoonotic disease that occurs in many part of the world and makes considerable

economic losses and public health problems in many countries. It is an endemic disease in some areas of the world, such as Middle east, including Iran (1, 11,12).

Hydatid infection is often manifested by a slowly growing cystic mass, most often involving the liver and the lung (2-5). Contaminated vegetables are the most culprit in human infection. The larva stage released from egg in the gastrointestinal tract of man and other intermediate hosts, passing through the intestine wall and reaching the portal vein, thus the liver is the first and the most common site of the disease. Some larva may even enter lungs, then reach the left side of the heart and enter in the systemic circulation, so they may infect any tissue except hair, nails, and teeth (13, 14).

There are a few reports on primary subcutaneous hydatidosis in man. Based on a systematic review 22 cases of primary subcutaneous hydatid cysts reported until 2010 (15). A case of subcutaneous hydatid cyst had been previously reported from posterior aspect of the left thigh in France (4). A solitary primary subcutaneous hydatid cyst reported in the abdominal wall of a 70-year-old Caucasian woman. She had a hydatid cyst in right Para-umbilical abdominal wall (16). Another case of hydatid cyst of the subcutaneous tissue of the left lumbar region reported from Tunisia (15). The surgeons and physician especially in endemic region of hydatid disease should be alerted about the possibility of hydatidosis in any cystic lesion of soft tissue.

The differential diagnosis of the soft tissue masses included abscess, epidermoid cyst, lipoma, aneurysm, hernia, and sarcoma. Sonography and CT are helpful in identifying soft tissue masses. Serology is a useful particularly for the differential diagnosis of hydatid liver cyst, however, it is usually negative (79%) for subcutaneous hydatid cyst (15).

Since the treatment of hydatid cyst is mainly surgical, preoperative diagnosis of subcutaneous and internal hydatidosis is important, because

rupturing of the cyst during operation can cause releasing the protoscolices and broad capsule that can result in dissemination the disease and the hydatid fluid can cause anaphylactic reaction especially in internal cyst infection (17-19).

The primary hydatid cyst of subcutaneous may be a cause for the soft tissue mass. It should be considered in the differential diagnosis of all mass lesions of the soft tissue especially in endemic areas and should be diagnosed before any therapeutic intervention in order to prevent serious complication.

Acknowledgments

The authors are grateful Mr. Erfan for providing of the figure and Dr. R Moniri from the Department of Microbiology, School of Medicine, Kashan University of Medical Sciences for their advice and assistance throughout this study. The authors declare that they have no conflicts of interest.

References

- Henry JB. Clinical Diagnosis and Management by laboratory Methods. 21st ed. New York:Suners;2007.
- Mandell GI, Bennet JE, Dolin R, editors. Principles and practice of infectious disease. Philadelphia:Churchill Livingston Inc;2005.
- Babu KS, Goel D, Prayaga A, Rao IS, Kumar A. Intra abdominal hydatid cyst: a case report. *Acta Cytol* 2008;52(4):464-6.
- Dănilă N, Chifan M, Prescorniță L, Andronic D, Tarași C, Crumpei F. Rare location of a hydatid cyst- in the upper mediastinum migrating into the spinal channel. *Rev Med Chir Soc Med Nat Iasi* 2001;105(3):573-5.
- Brunetti E, Kern P, Vuitton DA. Writing Panel for the WHO-IWGE. Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. *Acta Trop* 2010;114(1):1-16.
- Akhbari Sh, Ehsanbakhsh AR, Khorashadizadeh N. Hydatid disease of the breast, case report. *Ofogh-e-Danesh* 2009;15(2):65-70.
- Kireşi DA, Karabacakoğlu A, Odev K, Karaköse S. Uncommon locations of hydatid cysts. *Acta Radiol* 2003;44(6):622-36.
- Memis A, Arkun R, Bilgen I, Ustun EE. Primary soft tissue hydatid disease: report of two cases with MRI characteristics. *Eur Radiol* 1999; 9(6):1101-3.
- Orhan Z, Kara H, Tuzuner T, Sencan I, Alper M. Primary subcutaneous cyst hydatid disease in proximal thigh: an unusual localization: a case report. *BMC Musculoskelet Disord* 2003;7(4):25.
- Sallami S, Ayari K, Oueslati B, Miladi M. Isolation of subcutaneous hydatid cyst. *Tunis Med* 2011;89(3):314-5
- Al-Ibrahim J. Prevalence of hydatid cyst disease in west Bank-Palestine. An-Najah:National University publication;2009.
- Sayek I, Onat D. Diagnosis and treatment of uncomplicated hydatid cyst of the liver. *World J Surg* 2001;25(1):21-7.
- John TD, Petri WA. Markell and voges Medical Parasitology. 9th Ed. Missouri:Saunders;2006.
- Chevalier X, Rhamouni A, Bretagne S, Martigny J, Larget-Piet B. Hydatid cyst of the subcutaneous tissue without other involvement: MR imaging features. *AJR Am J Roentgenol* 1994;163(3):645-6.
- Kayaalp C, Dirican A, Aydin C. Primary subcutaneous hydatid cyst: A review of 22 cases. *Int J Surg* 2011;9:117-21.
- Ousadden A, Elbouhaddouti H, Ibnmajdoub KH, Mazaz K, Aittaleb K. A solitary primary subcutaneous hydatid cyst in the abdominal wall of a 70-year-old woman: a case report. *J Med Case Reports* 2011;5(1):270.
- Neumayr A, Troia G, de Bernardis C, Tamarozzi F, Goblirsch S, Piccoli L, *et al.* Justified concern or exaggerated fear: the risk of anaphylaxis in percutaneous treatment of cystic echinococcosis-a systematic literature review. *PLoS Negl Trop Dis* 2011;5(6):e1154.
- Farzam R, Ghaempanah A, Feyzi A. Intramuscular hydatid cyst of the thigh: a case presentation. *J Zanjan Univ Med Sci* 2011;18(73):83-8.
- Suryawanshi P, Khan AQ, Jatal S. Primary hydatid cyst of pancreas with acute pancreatitis. *Int J Surg Case Rep* 2011 2(6):122-4.