Case Report

A Case Report of Muscle Hydatidosis from Iran

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Abstract

Hydatid cyst is an important endemic zoonosis in Iran. It may be seen in various organs of the body. Musculoskeletal system is rarely involved by hydatid cyst, the larval form of Echinococcus granulosus. On clinical basis, it may resemble any soft tissue tumor. A 70-years old housewife living in Ardoghesh, a village in Neyshabur, north-east Iran, was admitted to general surgery clinic because of a painless mass in the back of her left thigh. This case emphasizes that hydatidosis should be included in differential diagnosis of any soft tissue mass especially in regions where hydatidosis is endemic.

Keywords: Hydatidosis, Muscle, Iran

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Introduction

Hydatidosis occurs because of infection by the genus of Echinococcus. It is a global public health threat (1-3). Six species of Echinococcus have been recognized, but four of them are of public health concern (1).

The greatest prevalence of hydatidosis in human and animal hosts is found in sheep-raising countries, including North America and South America, the entire Australia, New Zealand, Europe, central Asia, China, and parts of Africa (1, 2, 4-6).

Because of slow growth, a cyst is rarely diagnosed during childhood or adolescence. Various parts of the body may be involved with hydatid cyst but the liver and lungs are the main locations (7). Skeletal muscle infection is rare, and reported 0.5% - 4.7% of all cases of echinococcosis (8).

Patients with hydatid cyst are asymptomatic and present at an advanced stage of hydatidosis, when lesions have become extensive (7). Here we report a case of this rare entity of an isolated hydatid cyst of the muscle of the thigh.
Case report

A 70-years old housewife living in Ardoghesh, a village in Neyshabur, northeast of Iran, was admitted to general surgery clinic in Feb 2014 because of a painless mass in the back of her left thigh. She had a history of removing hydatid cyst surgery in her left thigh from three years ago. She was treated for one month with albendazole. She had a history of taking care of animals such as sheep and dog. She described a progressively growing mass in his thigh musculature. On examination, two round masses was felt in her leg. The preoperative diagnosis was malignant neoplasm. The patient was operated under general anesthesia. During the operation, laminated layers of hydatid cysts were observed and two round masses was successfully removed (Fig. 1). The patient was treated with albendazole postoperatively for 3 months.

Gross pathology showed two soft cystic masses (13×4/5×4/5 cm and other 17×4×4 cm in diameter) that contained gelatinous material and multiple daughter cysts. In histopathologic examination cross section of a hydatid cyst with laminated layer and germinal layer, brood capsules containing multiple proscociles, hooklets are considered as diagnostic keys (H&E). Pathological examination confirmed diagnosis as hydatid cyst of thigh (Fig. 2, 3).

Discussion

Hydatid disease is a very serious problem in sheep-raising countries caused by tapeworms belonging to the class Cestoda, in the family Taeniidae, of the genus *Echinococcus*. *E. granulosus* is responsible of hydatid cyst. They measure 3 mm to 6 mm long when mature and lives in intestine of carnivores, particularly dogs and other canines, as definitive hosts. Many mammals may serve as intermediate hosts, but herbivorous species are most likely to become infected by eating eggs on contaminated herbal material.
Humans are seldom involved as accidental intermediate hosts in these cases and infected by accidentally ingestion of Echinococcus spp. eggs, usually because of fondling dogs (6, 9).

Hydatidosis is a serious public health problem in some parts of the world (4, 10). Khorasan Province, located in the northeastern part of Iran had the highest incidence rate for hydatidosis (11). Although the incidence of hydatidosis has decreased because of education and control programs, there are still concerns in some parts of the world (12).

Hydatid cyst is most commonly found in the liver and lung, while they can occur in other organs including muscle, brain, eye, spleen, kidney, orbit, lymphatic glands, myocardium, tonsil, pancreas, skin, ovary, uterus and parotid glands (2, 13-17). Hydatidosis are usually asymptomatic until adolescence due to the slow growing process of the parasite in tissues such as muscle and bone, although it can be acquired at any age (18). Incidence rate of musculoskeletal hydatidosis is not clear. Some reports showed an incidence of musculoskeletal echinococcosis of 0.5%–4.7% among all cases of cystic echinococcosis (18-20). Isolated primary hydatidosis of skeletal muscle is rare. Muscles provide a poor environment for the parasite because of the presence of lactic acid and mechanical factors, such as contractile activity, may make encystment less likely (18-20).

Preoperative diagnosis of muscular hydatidosis is difficult. It may mimic any soft tissue tumor such as abscess, synovial cyst, and malignant tumor. Before biopsy of cyst, diagnosis of hydatidosis should be confirmed to avoid leakage of cyst contents and the accompanying risks of anaphylaxis (20). Hydatidosis in soft tissues may present with a variety of patterns and recognizing them is necessary in diagnosis (18). In our presented case, preoperative diagnosis was malignant neoplasm and after surgery, hydatidosis was confirmed.

Rokni Yazdi et al. noted left thigh hydatidosis in a 50-years-old housewife living in a village in Zanjan, northwestern Iran (18). Asadi et al. noted left thigh hydatidosis in a 50-year-old woman from rural area around Rasht city with no history of trauma, fever, or weight loss (20).

In conclusion, the hydatid cyst can present in any part of the body and no part is protected. The infestation may resemble a soft tissue tumor in the muscle and therefore in endemic area of hydatidosis, hydatid cyst should be considered as differential diagnosis of any soft tissue mass. In this case, leakage of cyst during surgery caused recurrent hydatidosis of thigh muscle.

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References

1. Moro P, Schantz PM. Echinococcosis: A review. Int J Infect Dis. 2009;13:125-133.
2. Vejdani M, Vejdani S, Lotfi S, Najafi F, Nazari N, Hamzavi Y. Study of operated primary and secondary (recurrence) hydatidosis in hospitals of kermanshah, west of islamic republic of iran. East Mediterr Health J. 2013;19
3. Mandal S, Deb Mandal M. Human cystic echinococcosis: Epidemiologic, zoonotic, clinical, diagnostic and therapeutic aspects. Asian Pacific J Trop Med. 2012;5:253-260.
4. Mousavi SR, Samsami M, Fallah M, Zirakzadeh H. A retrospective survey of human hydatidosis based on hospital records during the period of 10 years. J Parasitic Dis. 2012;36:7-9.
5. Craig PS, McManus DP, Lightowlers MW, Chabalgoity JA, Garcia HH, Gavidia CM, Gilman RH, Gonzalez AE, Lorca M, Naquira C, Nieto A, Schantz PM. Prevention and control of cystic echinococcosis. The Lancet Infect Dis. 2007;7:385-394.
6. Roberts L, Janovy J. Foundation of parasitology, 5th. WCB Company, UK. 2000:347-410.
7. Metanat M, Sharifi-mood B, Sandoghi M, Alavi-Naini R. Osseous hydatid disease. Iran J Parasitol. 2008;3:60-64.
8. Uraïqat AA, Al-Awamleh A. Hydatid cyst in the muscles: A case report. Shock. 2010;9:10.
9. Abhishek V, Patil VS, Mohan U, Shivswamy B. Abdominal wall hydatid cyst: Case report and review of literature. Case Reports In Surgery. 2012;2012
10. Vicidomini S, Cancrini G, Gabrielli S, Naspetti R, Bartoloni A. Muscular cystic hydatidosis: Case report. BMC Infect Dis. 2007;7:23.
11. Nourjah N, Sahba G, Baniardalani M, Chavshin A. Study of 4850 operated hydatidosis cases in iran. Southeast Asian J Trop Med Public Health. 2004;35:218-222.
12. Faniian H, Karimian Marnani M. A case report of hydatid disease in long bone. J Res Med Sci. 2005;10:101-104.
13. Rokni MB. Echinococcosis/hydatidosis in iran. Iran J Parasitol. 2009;4:1-16.
14. Hajizadeh M, Ahmadvand E, Sadat ATE, Spotin A. Hydatidosis as a cause of acute appendicitis: A case report. Asian Pacific J Trop Dis. 2013;3:71-73.
15. Berenji F, Mirsadraei S, Asaadi L, Maroufi A, Fata A. A case report of alveolar echinococcosis. Medical Journal of Mashhad University of Medical Sciences. 2007
16. Fakoor M, Marashi-Nejad S, Maraghi S. Hydatidosis of tibia. Pak J Med Sci. 2006;22:468.
17. Ghanaati H, Mohammadifar M, Ghajarzadeh M, Firouznia K, Motevalli M, Jalali AH. Hydatid cyst of the knee: A case report. Iran J Radiol. 2011;8:170.
18. Rokni Yazdi H, Sotoudeh H, Sharegh H, Yazdabadi A. A case of primary adductor muscle hydatidosis: "Water-lily sign" on magnetic resonance imaging. Iran J Radiol. 2007
19. Geramizadeh B. Unusual locations of the hydatid cyst: A review from Iran. Iran J Med Sci. 2013;38:2.
20. Asadi K. Hydatid cyst of the biceps femoris muscle (a rare case in orthopedic surgery). Shiraz E Med J. 2011;12