

Case Report

INTERVENTRICULAR SEPTUM HYDATID CYST CAUSING ILEOFEMORAL ARTERY EMBOLISM AND ISCHEMIC SYNDROME OF THE LOWER LIMB

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Abstract

Embolism of the femoral artery by an echinococcus cyst is extremely rare and is due to rupture of an intracardiac hydatid cyst. We report the case of a 14-year-old boy who was admitted to our clinic with the diagnosis of arterial occlusion of the right lower extremity. Preoperative angiography revealed an ileofemoral embolic occlusion. During surgery, multiple hydatid cyst components causing femoral artery occlusion were found and excised. This case emphasizes that, in endemic countries, primary vascular echinococcosis should be considered in the differential diagnosis of arterial occlusion.

Keywords: Arterial occlusive diseases, echinococcosis, femoral artery; hydatid cyst, case report

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Introduction

Hydatid disease is a parasitic infection found all over the world, although it is far more frequent in Mediterranean countries. Larvae of *Echinococcus granulosus* produce the infection.

Humans may become infected by contact with a definitive host or by eating contaminated food.¹ Although infestation of any part of the human body can occur, arterial involvement is rare,^{2,3} and most cases are peripheral embolic episodes with the heart and aorta as the primary sites of origin.⁴⁻⁹

We report a case of femoral artery embolism secondary to a primary intracardiac echinococcus cyst, which presented as right lower limb ischemic syndrome.

Case report

A 14-year-old male patient complained of acute right lower extremity pain for 3 days, followed by exacerbation of pain on the third day of admission. Physical examination revealed pallor and absence of the right leg pulse. The right leg was cold and slightly tender. Laboratory tests were unremarkable.

Angiography demonstrated a serpentine filling defect in the right common, internal and external iliac arteries and complete occlusion of external iliac and common femoral arteries with a poor collateral circulation (Figure 1 A, B).

Surgical exploration of the femoral artery by groin incision showed an unusual sausage-like filling defect of the artery, expanding the arterial lumen. Arteriotomy revealed hydatid vesicles with limited blood flow. Hydatid cysts were excised and arterial embolectomy was performed.

After surgery, the patient underwent further investigation. Chest radiograph and abdominal CT scan and ultrasonography were normal.

Echocardiography revealed a mobile mixed mass lesion of 4.0 cm by 3.5 cm in dimension, located at the anterior free wall with bulging into the left ventricle (Figure 2 A, B).

There were no echocardiographic signs of obstruction. Serologic tests were positive for hydatid disease. No other visceral localization of the disease was found. The patient underwent cardiac surgery.

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The myocardium was opened and the mass lesion was removed. Histologic examination of the excised lesion revealed a complicated hydatid cyst (Figure 3 A, B). The postoperative period was uneventful and the patient was discharged without symptoms. The echocardiogram taken after the operation was normal.

Discussion

Hydatid disease is a parasitic infection caused by the larval stage of *Echinococcus granulosus*.² When a human ingests the eggs, embryos escape from the eggs, penetrate the intestinal mucosa, and enter the portal circulation. Most are filtered out by the liver or the lungs, but some escape into the general circulation to involve the brain, kidneys, bones, heart, and other tissues.¹⁰⁻¹² Localization of a hydatid cyst in the arterial wall is very rare even in countries where the disease is endemic.¹² Involvement of the aortic wall is also rare.¹²

Although thoracic aorta involvement occurs as a primary intramural form, abdominal form and involvement of peripheral arterial wall is usually secondary to embolization from cardiac cyst or direct invasion from retroperitoneal disease.^{7,10,13}

Acute arterial ischemia by hydatid cyst emboli is rare and arterial localization of the parasite embryo is exceptional. How the arterial wall is affected remains unclear. Some authors report that scolices erode the arterial wall from the adjacent tissue, and others are of

the opinion that the parasite reaches the arterial wall via the vasa vasorum.^{4, 5,7-9}

In our case, the hydatid was located in the arterial lumen. Imaging indicated left ventricular septum as a probable primary site for ileofemoral artery location. The importance of our case rests in the unusual location of the hydatid cysts.

Preoperative diagnosis of echinococcosis in locations other than the liver and lungs is difficult, especially in none-endemic regions. Hydatid disease should be included in the differential diagnosis of cystic arterial masses.

There have been several reports on cardiac involvement, comprising only 0.02-2% of cases.¹⁴

Most often, the left ventricular wall is affected and other possible locations are the interventricular septum, pericardium, right ventricle and atrium.^{1,15}

The clinical presentation of cardiac hydatid disease is variable and the diagnosis is difficult.

Since cystic mass grows slowly, it is usually asymptomatic or can produce atypical or mild symptoms depending on localization; however, rupture of the hydatid cysts may induce embolism or life-threatening anaphylactic shock.

In our case, the second surgical intervention was prompted by the left ventricular cyst. In such cases, differential diagnosis should include cardiac tumors, thrombus, myxoma and other rare intracardiac tumors, such a sarcoma.



FIGURE 1A



FIGURE 1B

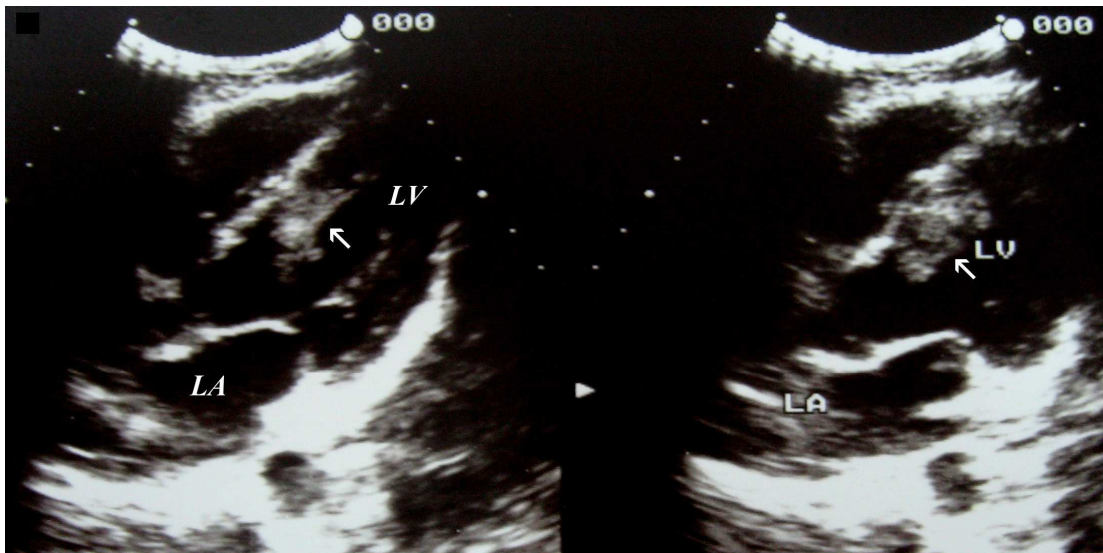


FIGURE 2A

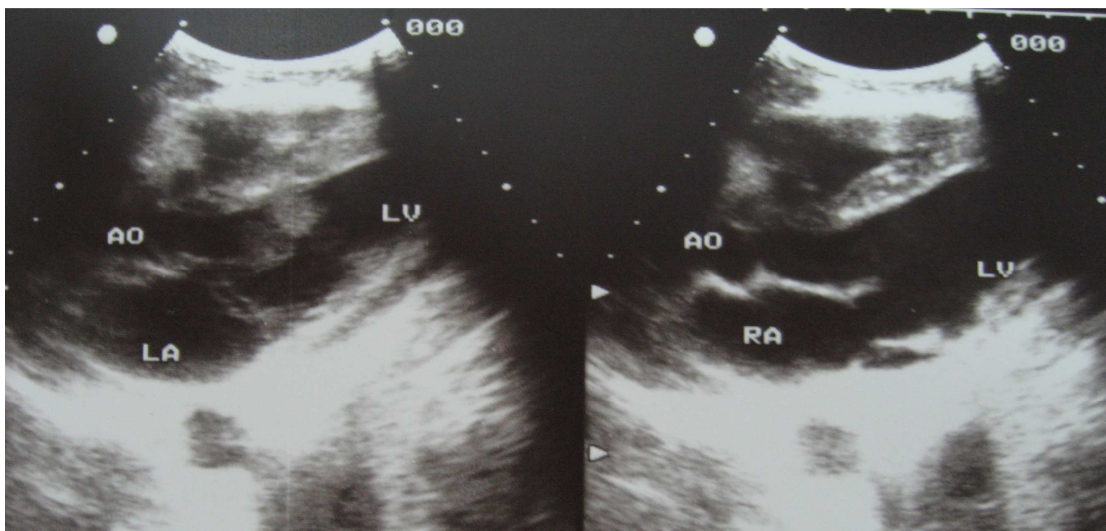


FIGURE 2B

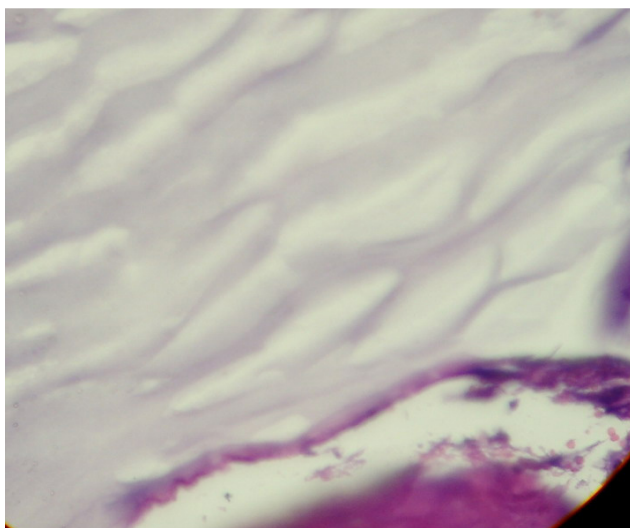


FIGURE 3A



FIGURE 3B

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