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Recurrence of Invasive Multiple Cardiopericardial Hydatidosis with Potential Life -Threatning Complications

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Abstract

Hydatidosis is an endemic disease in Tunisia. The hepatic and pulmonary localizations are the most frequent. Diagnosis is often late due to lack of specificity and clinical latency which characterize this affection. Cardiac involvement is rare and may pose a diagnostic and therapeutic problem due to recidivism. We report a case of massive invasive intracardic and pericardial hydatidosis in a 37-year-old male operated for hydatic liver cyst at the age of 24. The patient was operated initially since 5 years in emergency under cardiopulmonary bypass for multiple cardio pericardial hydatidosis discovered incidentally, threatening both the arterial and venous systems with uneventful post-operative course. Reconsult after 6 years for shortness of breath, palpitation and features of congestive cardiac failure related to relapse of the hydatid desease redisseminating in cardiac cavities. A thoracic magnetic resonance imaging (MRI) showed a recurrence of the cardiopericardial hydatidosis with pulmonary artery hypertension (PAH) and multiple septic and arterial hydatic emboli. The patient was treated medically by anthelmintic medecines (albendazole) and biltricide (praziquantel) with a good clinical evolution and stable cardiac echography controls.

Keywords: Echinococcus Granulosis; Cardiac failure; Rupture; Emergency; Recidivism; Surgery; Albendazole

Introduction

The hydatid cyst is a parasitic tumor caused by Echinococcus granulosus in an intermediate host. Although cardiac involvement is a rare manifestation of hydatid cyst disease, its early diagnosis and surgical management are crucial. Patients with cardiac hydatidosis may develop acute life-threatening complications secondary to their invasion of surrounding cardiac structures, such as cyst rupture together with systemic and pulmonary dissemination.

Case Report

A 37-year-old man of rural origin, who had been operated for a hydatic liver cyst at the age of 24. The patient reconsulted after 5 years for multiple cardiopericardial hydatidosis, right and left ventricle hydatid cysts, also in the right atrium and the aorta. The patient underwent a cardiac surgery under cardiopulmonary bypass. A right ventricle cyst of 7 cm is discovered in intraoperative and developed on the lower surface. A left ventricle cyst of 6cm , a cyst of the right atrium measuring 2cm near the inferior vena cava and , a cyst of the wall of the aorta of 3 cm at the level of its root compressing the superior vena cava with a multitude of small disseminating cysts all over the territory of the pericardium with secondary pericardial hydatidosis. After setting up of protective fields with hypertonic saline solution, the different cavities were approached to remove the hydatic membranes and carefully clean the pericardial cavity with hypertonic saline solution. Cardiopulmonary bypass lasted 85 minutes and the postoperative course was uneventful. During this period he was treated by albendazole with good observance and tolerance with a cardiac ultrasound control showing disappearance of oval filing of the right atrium and since the

patient is followed in the infectious diseases department for 2 years then lost sight for 5 years. Currently the patient has been hospitalized in our reanimation unit of the cardiovascular surgery department for shortness of breath and palpitation. He had been unwell for the past 2 years with complaints of easy fatigability, progressive breathlessness. On examination, he had features of congestive heart failure with distended jugular veins, bilateral basal crepitations, hepatomegaly and pedal edema. His heart rate was 110, blood pressure 90/50 mmHg. Biological assessment has objected blood eosinophilia at 1900/mm3.Chest x-ray showed cardiomegaly and left apical opacity. Cardiac ultrasound revealed left ventricle ejection fraction at 60%, pulmonary arterial hypertension 60 mmhg, hyperechogenic cyst mesuring 5*2 cm adjacent to the roof of the right atrium overlapping tricuspid. The pulmonary pathway is free and presence of 3 adjacent hyperechogenic cystic images of the pericardium behind the left ventricle. A thoracic magnetic resonance imaging(MRI) angiography showed cystic formations hypointense on T1-weighted images and hyperintense on T2-weighted at: left ventricular lateral wall 9*3 cm , right atrium inracavitar 4*2cm , pericardium next to the left ventricular tip 4* 3.5 cm and ascending aorta 3* 2,5 cm , dilatation of the pulmonary artery and infundibulum and alteration of the function of the left ventricle to 36% with bilateral arterial hydatic emboli.The diagnosis retained was a recidive of the cardiopericardial hydatidosis with pulmonary artery hypertension(PAH) and multiple septic and arterial hydatic emboli. The patient was treated medically by anthelmintic medecines and biltricide with a good clinical evolution and weaning out of oxygen, SpO2 at 95% at ambient air. Surgical abstinence was decided since the stability of the lesions .Then the patient had cardiac ultrasound control of residual hydatic cysts showing steady appearance of lesions with good hemodynamic tolerance.

Discussion

Hydatid disease is commonly caused by the parasite E.granulosus. Humans usually become affected by the ingestion of food or water contaminated by dog faeces containing the eggs. Hydatid cysts are most common in the liver and lungs of humans. Cardiac hydatid cysts are rare, and cardiac echinococcosis is about 0.5–2% of all hydatid cases [1-3]. Usually the cysts are located primarily within the myocardial layers or secondarily in the pericardium. Intracavitary cyst locations are rarely observed. The left and right ventricles, pericardium, pulmonary artery, left atrial appendage, and interventricular and interatrial septum's can be involved. Cardiac echinococcosis is generally asymptomatic. Its clinical features depend on the size site, and stage of the cyst and the presence of haemodynamic consequences. The cysts may cause arrhythmias, acute coronary syndrome, cardiac tamponade, or congestive cardiac failure as seen in our case [4, 5]. In our case, the patient had multiple and invasive cardiac cysts. The pericardium was invaded with small disseminating cysts all over its territory probably related to secondary pericardial hydatidosis. In fact pericardial location may occur (4% to 10%) and it is as a result of rupture of superficially located myocardial cysts or spreading of the contents during prior surgical removal. Expansion of cysts is a common manifestation of right ventricular cysts. Unfortunately, in our case some of cysts were found growing over the tricuspid valve .The chest radiograph can be normal or usually shows a cardiomegaly, as in our patient. Calcifications may be noted also in the outer pericyst. Hydatidosis has specific aspect demonstrated on echocardiography, multiloculated image, and presence of small daughter cysts or thin floating membranes. The haemodynamic consequences of the lesion can also be assessed. But in our case the left ventricular function was falsely reassuring.The hydatid cyst usually has a characteristic appearance on MRI: an oval lesion that is hypointense on T1-weighted images and hyperintense on T2-weighted images. A typical Finding on T2-weighted images is a hypointense peripheral ring, which represents the pericyst (a dense fibrous capsule from the reactive host tissue). The multivesicular nature of the cystic mass and membrane detachment indicate the true diagnosis. The cysts may be single or multiple uniloculated or multiloculated, and thin or thick walled. Calcification of the cyst wall is a more specific sign, as well as presence of daughter cysts, and membrane detachment [6-8]. Surgical intervention for cardiac hydatidosis is the definitive treatment, even in asymptomatic patients to prevent complications (such as rupture or embolism), followed by anthelmintic drugs (benzimidazoles) to prevent recurrence [9]. The surgical approach depends on the location, number, and of the size of cysts. In our case, due to presence of multiple intracardiac and pericardial cysts, the patient was operated under cardiopulmonary bypass. Cardiopulmonary bypass is crucial to prevent rupture, embolism, and anaphylaxis. Localization of cysts in Right cardiac cavities like in our case may be dangerous, due to the low pressure regime of the right cavities and the elective cyst development in sub-endocardial, this one ends up breaking in traffic lung (30% mortality) [10]. The distribution of cystic locations is parallel to the importance of coronary blood flow: 60% in the left ventricle, 15% in the right ventricle. The use of albendazole, with or without praziquantel, has shown to be beneficial like in our case In fact his effectiveness of benzimidazoles appears to be more dependent on the duration of treatment than drug blood levels. We report this case first, to ensure the importance of a good preoperative evaluation of multiple intracardiac localizations of hydatid cyst to guide cardiac surgery as well as to prevent complications and secondary to focus on medical treatment that should be reinitiated and maintained indefinitely to remain stable on pre-and post-operative, in the case we reported the patient was

lost sight for a long period after surgery and did not take his drugs.

Conclusion

Cardiac hydatid is a very rare manifestation of hydatid disease. The diagnosis is suggested by the identification of daughter cysts in a multiseptated lesion, presence of hydatid sand, wall calcifications and the spokewheel appearance. Echocardiography is the modality of choice for the diagnosis of cardiac hydatid cysts, owing to its widespread availability, and the ability to analyse concurrent haemodynamic consequences. MRI may aid in accurate localization of the lesion, detection of multiple lesions, study of concurrent lung lesions and detection of multiorgan involvement, as well as differential diagnosis and follow-up.

References

1. Diaz-Menendez M, Perez-Molina JA, Norman FF, Perez-Ayala A, Monge-Maillo B, Fuertes PZ, et al. Management and outcome of cardiac and endovascular cystic echinococcosis. Garcia HH, editor. PLoS Negl Trop Dis. 2012; 6.
2. Wadhawa V, Shah J, Doshi C, Ramani J, Lakhia K, Rathod D, et al. Surgical overview of cardiac echinococcosis: a rare entity. Interactive cardiovascular and thoracic surgery. 2018; 27.
3. Muthu SK, Thiagarajan A, Govindarajan S, Coutinho CMA, Gunawardena WJ, Swaminathan TS. Hydatid cyst of the cardiac interventricular septum: report of two cases. BJR. 2007; 80.
4. Yaliniz H, Tokcan A, Salih OK, Ulus T. Surgical treatment of cardiac hydatid disease: A report of 7 cases. Tex Heart Inst J. 2006; 33.
5. Katewa A, Vaideeswar P, Khandekar JV, Sajid S, Jawale RM, Agrawal NB, et al. Isolated pericardial and intracardiac hydatidosis: presentation as congestive cardiac failure and fatal pulmonary embolism. Cardiovascular pathology. 2009; 18.
6. Tekin AF, Durmaz MS, Dagli M, Akbayrak S, Akbayrak P, Turgut B. Left ventricular hydatid cyst mimicking acute coronary syndrome. Radiology case reports. 2018; 13.
7. Yague D, Lozano MP, Lample C, Nunez ME, Sanchez F. Bilateral hydatid cyst of pulmonary arteries: MR and CT findings. Eur Radiol. 1998; 8.
8. Dursun M, Terzibasioglu E, Yilmaz R, Cekrezi B, Olgar S, Nisli K, et al. Cardiac hydatid disease: CT and MRI findings. AJR Am J Roentgenol. 2008; 190.
9. Kabbani SS, Ramadan A, Kabbani L, Sandouk A, Nabhani F, Jamil H. Surgical experience with cardiac echinococcosis. Asian Cardiovasc Thorac Ann. 2007; 15.
10. Redha L. Kyste hydatique du ventricule droit rompu dans l'arte re pulmonaire: A propos d'un cas Hydatid cyst of right ventricle ruptured in the pulmonary artery. A case report: 3.