## **CASE REPORT – OPEN ACCESS**

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# Multi-sited hydatid cystic disease with muscular involvement in a young female: A case report from Syria



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#### ARTICLE INFO

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#### ABSTRACT

*INTRODUCTION:* Hydatidosis is a unique disease caused by a tapeworm called Echinococcus granulosus. Musculoskeletal involvement with hydatid cystic disease accounts for less than 5% of all cases. The main purpose of this study is to present a case of multi-sited hydatid cystic disease and how to manage it. *PRESENTATION OF CASE:* Here we present a case of 14-year-old girl complained of a gradually enlarging mass on her left shoulder with a final diagnosis of triple-sited hydatid cystic disease including the right lung, the left trapezius muscle and the liver.

*DISCUSSION:* The diagnosis was made by non invasive radiological procedures (CT scan and MRI). The management consisted of aspiration and reinjection of hypertonic solution to the lung cyst followed by complete surgical resection, enucleation of the muscular lesion and conservative management of the liver lesion. After Three months of follow up there was no recurrence at the sites of operation and the liver cyst reduced in size.

*CONCLUSION*: Multi-sited hydatid cysts could be treated through one stage surgery followed by chemotherapy with benzimidazoles.

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#### 1. Introduction

The present work has been reported in line with the SCARE criteria [1]. Echinococossis is an infectious disease caused by the cestode *Echinococcus* commonly affecting liver and lungs [2]. The liver is affected in 75% of cases, the lungs in 15%, and the remainder to the rest of the body [3]. Musculoskeletal involvement with hydatid cystic disease accounts for less than 5% of all cases [4]. This low incidence is related to the filtering function of the liver and lungs which serve to prevent the echinococcus from entering the systemic circulation [5], and the high lactic acid concentration and the contractile activities of skeletal muscles [6,7]. Although most cases are asymptomatic, symptoms occasionally result from compression of adjacent structures or other complications [8].

We present a case from Almowassat hospital, Damascus University which is about a young girl with triple-sited hydatid cystic disease in the right lung, left trapezius muscle and liver. Triple cysts at the same organ (the liver) was mentioned in the literature [9], however the localization of cysts mentioned in our case has not been reported before. In our experience this is a rare case of multi-sited hydatidosis which was managed surgically followed by conservative treatment with benzimidazoles.

#### 2. Presentation of case

A previously healthy 14-year-old girl with no medical, social or surgical history complained of a gradually enlarging mass on her left shoulder over the period of two months, with no pain or constitutional symptoms. On examination, there was a  $5 \times 6$  cm cystic mass at the upper border of her left scapula, with soft and intact overlying skin. The cyst was freely mobile with no signs of localized inflammation. Clinical examination also revealed markedly decreased breath sounds over the lower right lung field. The serological tests were within normal limits. chest x-ray showed a rounded regular density in the right lower lobe (Fig. 1). Computed tomography confirmed the presence of a  $10 \times 8 \text{ cm}$  cystic mass within the lower lobe of the right lung (Fig. 2A), a  $5.5 \times 4.5$  cm cystic mass within the muscular components over the left scapula, and a  $2 \times 1.5$  cm cystic mass within the right lobe of the liver (Fig. 2B). T1-weighted MRI images of the left shoulder cyst revealed a low signal intensity cystic mass with a low intensity rim and high signal intensity on T2-weighted images within the thickness of left trapezius muscle (Fig. 3C and D).

Decision was made to manage both lung and shoulder cysts surgically with one operation following 2 weeks of medical treatment with albendazole because of the extraheptic involvement of the former and the superficial location prone to trauma of the latter. The right lung lesion was approached firstly through a right thoracotomy in the 5th inter-costal space, and the  $10 \times 6$  cm cystic mass in the right lower lobe (Fig. 4) was excised by means of aspira-

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Fig. 1. On admission CXR:round regular density in the right lower lobe of the lung.

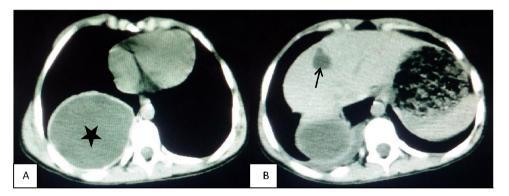


Fig. 2. Chest and abdominal CT scan with contrast: A: chest CT shows the 10\*8 cm cyst in the right lower lobe of the lung(black star). B:abdominal CT reveals the small 1.5\*2 cm cyst in the right lobe of the liver(black arrow).

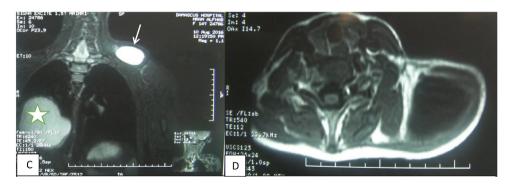


Fig. 3. Chest MRI: C: T2 weighted image(coronal section) shows two high sign intensity cystic lesions, one 5.5\*4.5 cm within the thickness of left trapezius muscle(white arrow) and the other 10\*8 cm in the right lower lobe of the lung(white star). D: T1 weighted image(axial section) reveals low sign intensity cystic lesion within left trapezius muscle.

tion, injection of 20% hypertonic saline and re-aspiration and then the germinal membrane then was enbloc excised. Bronchial fistulas and the remainder cavity were closed with 2.0 vicryl (absorbable) suture. A second incision was made over the left shoulder cyst. A  $5 \times 4$  cystic mass was found within the thickness of the left trapezius muscle, and was enucleated taking care not to induce any leak (Fig. 5) and the remainder cavity was closed with 2.0 vicryl stuture. Complementary medical therapy with albendazole was continued for 3 months. The patient had been followed up for the next three

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