

A Case Report of a Rare Diaphragmatic Lipoma with Bochdalek Hernia in a 7 Month Old Girl

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Abstract: Lipoma may be observed in any organ, though in approximately 50% of the cases, it is seen in soft tissues. But diaphragmatic lipoma is extremely rare. Since diaphragmatic lipoma is asymptomatic, it is usually diagnosed in adulthood. No case of diaphragmatic lipoma under 4 years of age has been reported so far [2]. Here we report a diaphragmatic lipoma with Bochdalek hernia in a 7 month old girl.

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Key words: Lipoma, Diaphragmatic, Bochdalek, Hernia

Introduction

Primary tumors of diaphragm are rare and diaphragmatic lipoma is extremely rare [1, 2], mainly seen on the left (2 times compared with the right side) and more prominent in the posteriolateral of the left side which is the prevalent place for Bochdalek hernia [4, 11, 12]. Diaphragmatic lipoma is benign and must be removed by surgery in all cases because it cannot be differentiated from liposarcoma in early stages [5]. Our patient was a 7 month infant with no history of illness and hospitalization. She began suffering from a mild, dry cough and vomiting, before being referred to the emergency service a few days ago. On admission she was fully conscious. She was not febrile; but vomited once in emergency room after breast feeding. A few days ago she was treated on an outpatient basis without showing a good response. In primary examination, head and neck was normal, lung auscultation decreased on the left side, abdomen was soft without organomegaly, and the limbs were normal. Vital signs were stable: (BP: 85/55 PR:110 RR:44 TA: 36.5).

NPO and serum therapy were ordered for the patient. Chest X-ray showed opacity on the left side (fig.1).

The patient was hospitalized and chest CT scan was done which showed heterogeneous shapeless structures containing air bubbles in the left hemithorax and also some part of spleen (fig.2). Heart and mediastinum were under pressure and collapse-consolidation changes were observed in the left lung parenchyma. The right lung was normal. After consultation, the patient was put on the waiting list for surgery, but because of pneumonia, surgery was postponed for 2 weeks. Finally, after two weeks the patient was referred for surgical operation and by

transverse LUQ incision above the umbilicus, abdomen was opened; the intestines, stomach and part of spleen were in the chest; which moved back from thorax into abdominal cavity. Also the left lung was fully hypoplastic. Simultaneously a lesion was in the diaphragm which removed out and sent for pathological examination. Surgical site was restored and Chest Tube was put for the patient and eventually, after four days the patient was discharged with good general condition.

Pathological examination reported mature diaphragmatic lipoma, the pathology image of which is available below (Figure 3).



Figure1: chest x ray

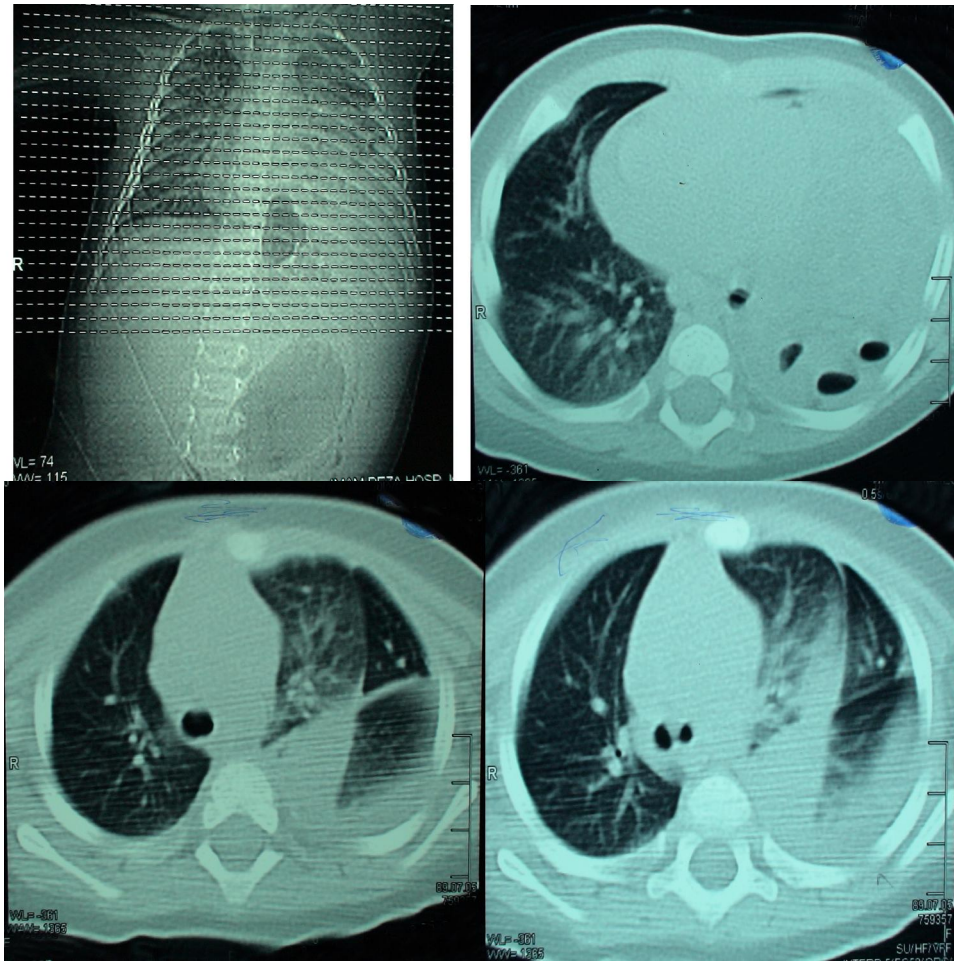


Figure 2: chest CT scan of the patient

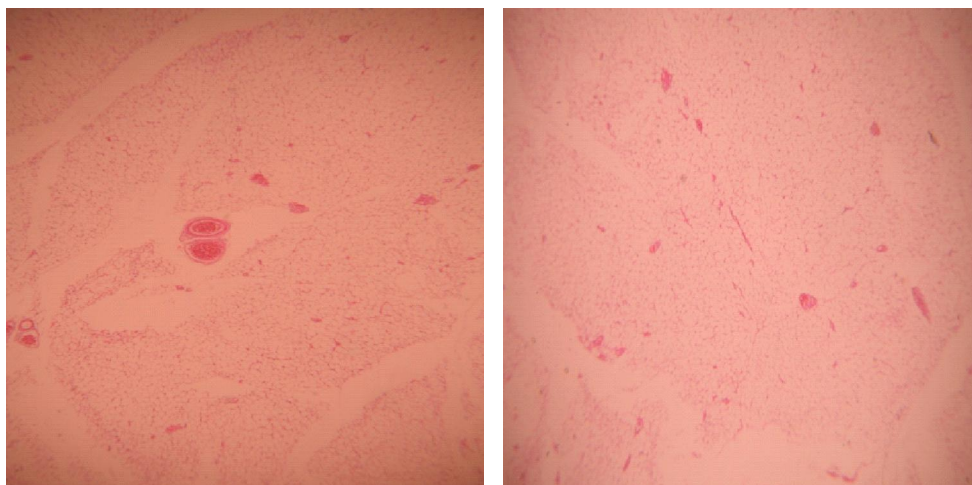


Figure 3: pathology image with H&E stain

Discussion

Diaphragm is a dome-shaped tendo-muscular structure which separates the chest and abdominal cavity. The incidence of congenital diaphragmatic hernia is one in 2000-5000, and girls are affected

about twice as much as boys (6). Left defect is more prevalent. Most of Diaphragmatic hernias are sporadic, but familial cases have been reported. In more than 50% of the cases, congenital hernias are diagnosed through prenatal ultrasound; the ultrasound

findings normally include: poly hydraminus, chest mass, mediastinal shift, and liver or stomach air in the chest [6]. The prenatal ultrasound of our patient was normal. Respiratory distress is the main symptom in children suffering from diaphragmatic hernia. In small groups of patients, the symptoms are appeared after the neonatal period and maybe demonstrated by vomiting or mild respiratory symptoms. The patient also had no signs before, and only got cough and vomiting a few days before being presented. Undiagnosed diaphragmatic hernia is a rare cause of sudden death in infants and neonates [6]. On the other hand, primary tumors of diaphragm are very rare and mostly are diagnosed in the fourth and fifth decade of life [7]. Grancher (1868) reported a primary diaphragmatic tumor for the first time, which was pathologically a benign fibroma [4]. Less than 200 cases have been reported in English sources from 1868 to 2005 [7]. Among these, diaphragmatic lipoma is extremely rare which was introduced for the first time in 1886 by Clark in autopsy [8]. In examinations performed on 71 patients suffering from primary neoplasms of diaphragm, only nine lipoma cases were reported [5, 2].

Lipoma is one of benign tumors, which is very rarely seen in the thoracic cavity [10 and 9]. Rhabdomyosarcoma is the most prevalent malignant tumor of the diaphragm [7, 1]. Diaphragmatic tumors have no obvious sign and even are asymptomatic. Symptoms depend on the age, tumor size and the tumor histology [1]. In most cases, the diaphragmatic lipoma is diagnosed accidentally [5, 2 and 1]. In our case, the patient's diaphragmatic lipoma was also diagnosed accidentally.

The most important differential diagnosis of diaphragmatic lipoma is malignant liposarcoma. Of course in most cases, the liposarcoma is associated with pleural effusion [5]. In Most cases, the diaphragmatic repair needs muscular flap or exogenous materials such as poly tetra fluoro ethylene [7], but in this case no flap was needed and it was repaired by simple suture. Diaphragmatic lipoma prognosis is suitable, but it is recommended to perform serial diagnostic imaging [12, 11 and 2].

In this case, a 7 month old infant girl, the diaphragmatic lipoma was diagnosed accidentally; she had no symptom except mild cough and vomiting. The prenatal ultrasound did not mention diaphragmatic hernia. After clinical examinations and imaging, the Bochdalek hernia was diagnosed; the patient undergone surgery to repair hernia and simultaneously the diaphragmatic mass was resected; diagnostic pathology reported diaphragmatic lipoma, and the patient was recommended to follow annual imaging studies.

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