CASE REPORT

EVENTRATION OF DIAPHRAGM PRESENTING WITH RECURRENT CHEST INFECTIONS

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Abstract

Eventration of the diaphragm (ED) is a relatively rare condition. Eventration of the diaphragm is an abnormal elevation of the dome of diaphragm in which all or part of the diaphragm is largely composed of fibrous tissue. Clinical manifestations range from asymptomatic to life threatening respiratory distress. Recurrent chest infections are also the presenting complaints in patients. We report a 3 years old boy who presented with recurrent chest infections with left diaphragm eventration treated by plication successfully.

Introduction

Eventration of diaphragm refers to the abnormal elevation of dome of the diaphragm. It is a rare anomaly with an incidence of 1 in 10,000 live births. (1) Recurrent chest infections are the commonest presenting complaint in patients. (1) We report a 3 years old boy who presented with recurrent chest infections with left diaphram eventration treated by plication successfully.

Case Report

A 3 years old boy presented to us with cough and fever since 15 days, breathlessness since 5 days. There is also history of recurrent respiratory infections since 5 months of age. On examination, he was sick, febrile, pale, and weighed 10 kgs. His respiratory rate was 54/min and blood pressure was 94/62 mm of Hg. Chest examination revealed decreased movements on left inframammary, infra-axillary, and infrascapular

areas. Tactile vocal fremitus was decreased and note was impaired on the left infrascapular area. Breath sounds were decreased in the left infra-axillary and infrascapular areas.Extensive crepitations were heard throughout the lung fields. Investigations revealed hemoglobin of 12.2 gms/dl, white cell count of 27,200/cumm (90% neutrophils), platelets 8.6 lakhs/cumm and ESR was 80 mm at end of one hour. Renal function tests were normal. HIV Elisa and mantoux test were negative. Cold agglutinins were not detected, gastric aspirate did not show acid fast bacillus on smear and blood culture was sterile. Chest X-ray showed bilateral bronchopnemonia with raised dome of left diaphram and mediastinal shift to right side. Child was treated with oxygen, injection ceftriaxone and linezolid for 14 days. Repeat x-ray showed clearance of lung fields. Child was posted for surgery after 15 days. Under general anasthesia left thoracotomy was done through 6th intercostal space and plication of left dome of diaphragm was done. Repeat X-ray after plication showed left diaphragm in proper position (Fig 1).Child was disharged and attending regular followup without any chest infections.

Figure 1: Eventration of left diaphragm (pre plication) with post plication normal position

Discussion

Eventration of the diaphragm can be congenital or acquired. Congenital eventration results from inadequate development of the muscle or absence of the phrenic nerves. The most common cause of acquired eventration is injury to the phrenic nerve, resulting from either a traumatic birth or thoracic surgery for congenital heart disease. (2) The exact aetiology of congenital diaphragmatic eventration is unknown, although it may be associated with fetal rubella or cytomegalovirus infection. (3)

In some cases, it may be difficult or impossible to distinguish from diaphragmatic paralysis. In eventration the diaphragm retains its continuity and attachments to the costal margin. With diaphragmatic hernia, in contrast, this continuity between the diaphragm and the costal margin is disrupted (2). Diaphragm is uniform in eventration but with sac in diaphragmatic hernia. There is no pulmonary hypoplasia in eventration compared to diaphragmatic hernia, therefore undetected at birth and is picked up as a coincidental finding. (1,3)

Clinical manifestations range from asymptomatic to life threatening respiratory distress requiring mechanical ventilatory support. (3) It usually remains asymptomatic in early life and presents later with respiratory and occasionally gastrointestinal complications (1,3,4). The respiratory complications are more in children compared to adults. Eventration of diaphragm in children may require surgical treatment to restore normal pulmonary parenchymal volume. Plication is the treatment of choice. (3-6) Thoracoscopic surgery avoids the problems of open surgery and its safety is well documented in children (7). In the present case, a diagnosis of left eventration of diaphragm was made based on radiological findings in a child with recurrent chest infections and plication of diaphragm was beneficial to the child.

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