

Eventration of Diaphragm - Case Report

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Summary :

Two patient one male of 35 years & one female of 7 years from Dhaka has been suffering from cough, fever & occasional respiratory distress. Patient received antibiotics and bronchodilator repeatedly by specialist for several times but they were not symptom free. Their blood picture was normal and chest x-ray revealed multiple cavitory like lesion in lower zone. Screening by fluoroscopy, Barium meal & enema x-ray revealed eventration of dome of diaphragm. Patients were advised for frequent small feeding with no stooping following meals & not to take meal before going to bed. Patients became symptom free only with this advise. No surgical interference was needed.

Introduction :

Eventration of the diaphragm is a condition in which all or part of the diaphragm is largely composed of fibrous tissue with only a few or interspersed muscle fibres^{1,2}. It is usually congenital but may be acquired.

Although previous authors disagree about the concept of the term eventration is now generally recognized to be an abnormally high position of part or all of the diaphragm, usually associated with a sharp decrease in muscle fibres and a membranous appearance of the abnormal area³. Eventrations of the diaphragm are divided aetiologically into two groups : (i) Congenital or nonparalytic; (ii) Acquired or Paralytic⁴.

Eventration occurs when any leaf of the diaphragm occupies an abnormally high position in the thorax. The positional changes results from developmental malformation of diaphragm (congenital eventration) or secondarily from paralysis of the phrenic nerve (acquired eventration). In the congenital variety the muscular development of the involved diaphragm

is defective, but the extent of malformation varies considerably, in the most severe variety, only a thin tendinous sheet separates the thoracic and abdominal cavities. Compression of the overlying lung during gestation causes varying degrees of pulmonary hypoplasia^{5,6}.

Despite the apparent developmental nature of the condition, there is evidence that its incidence increases with age suggesting that acquired factors may also be involved in pathogenesis⁷. Partial eventration is somewhat more common than total eventration and is usually present in the anteromedial portion of the right hemidiaphragm⁴. It occurs with equal frequency in men & women⁸. Total eventration occurs almost exclusively on the left side.

Characteristically eventration in the adult does not cause symptoms and is discovered on a screening chest roentgenogram. Occasionally, gastrointestinal symptoms develop with increasing obesity and consequent increased intra-abdominal pressure. Respiratory embarrassment and cardiac distress also have been attributed to this anomaly⁹ particularly in neonates.

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Eventration of diaphragm is diagnosed by finding a high diaphragm on chest roentgenograms. It may be detected incidentally in roengenograms obtained for other purpose. Instilling a small amount of air into the peritoneal cavity (diagnostic pneumoperitoneum) will establish the diagnosis but not the cause. Movement of the diaphragm in the involved side may be nearly absent, normal or paradoxical. Screening by fluoroscopy, Barium meal X-ray and Barium enema X-ray will confirm the diagnosis. A confident diagnosis can be established in questionable cases by computed tomography¹⁰.

No treatment is indicated for asymptomatic patients with congenital eventration. When respiratory distress occurs during infancy, surgical plication has been recommended, however, the results of this procedure are difficult to evaluate¹¹.

Case Report

Case No. -1

Mr. R. a 35-years old male developed cough, occasional respiratory distress and admitted in IDCH on May10, 1996. No previous history of fever cough respiratory distress was noted. The patient consulted 4 specialist for cough and occasional respiratory distress before presented to us. On physical examination his temp. was 98.6°F pulse 80/min BP 130/75 mmHg. Chest X-ray reveal multiple cavitory like lesion in left lower zone (Fig-1), the left dome of diaphragm could not be delineated well from chest X-ray. Initially patients sputum was sent for gm staining & for AFB and antibiotic was given orally. Sputum examination reveal normal flora. After 3 weeks CXR reveal no change.

Fluoroscopy revealed eventration of left dome of diaphragm. Barium meal & enema was done. Barium film showed that the cavitory like lesion that seen in CXR was the loop of colon (Fig-2).

Case No. -2

Miss Tania a -7 years girl has been suffering from repeated attack of cough, fever and chest pain for 7 years. For this she was treated repeatedly by antibiotics and bronchodilator being not getting cure. She consulted chest specialist who advised her for chest X-ray and blood count. Her blood picture was within normal limit but chest X-ray revealed a large cavitory lesion in left lower zone. She was then referred to IDCH as left sided lung abscess. After admission her sputum was sent for gram and AFB staining and for C/S including AFB. Sputum examination revealed no growth of pathogenic organism. Fibreoptic Bronchoscopy revealed no abnormality, screening by fluoroscopy showed elevated left dome and restricted movement of left dome.

Barium meal X-ray showed that the cavitory like lesion seen in plain chest X-ray (Fig-3) was due to fluid level in stomach. Barium also showed that there was loss of duodenal C-loop curvature. (Fig-4).

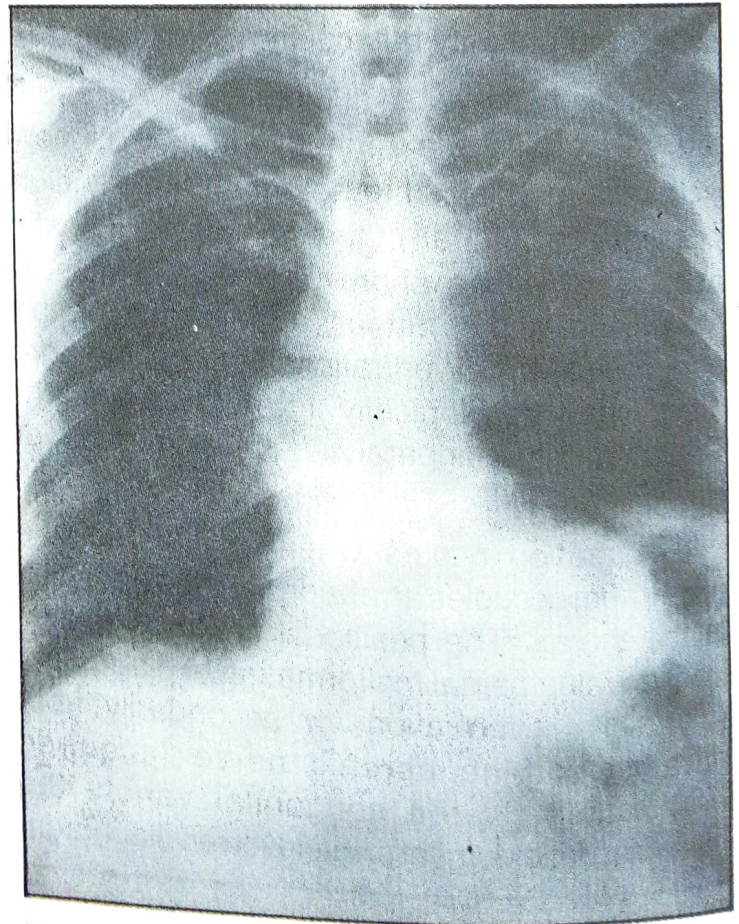


Fig-1 :

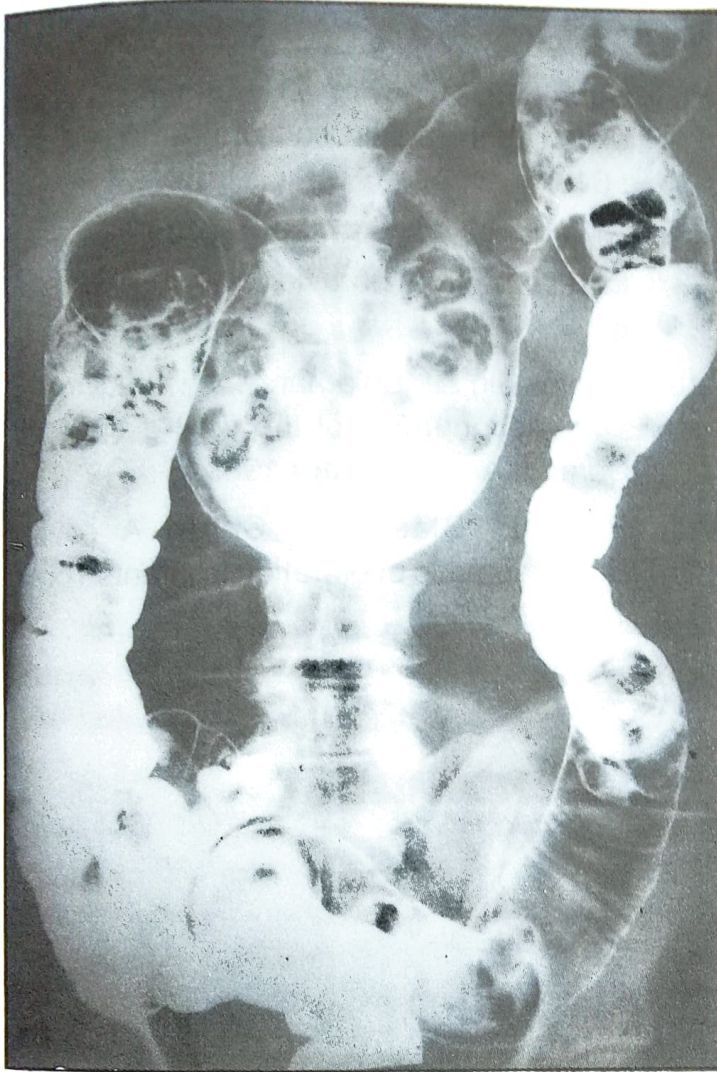


Fig-2 :

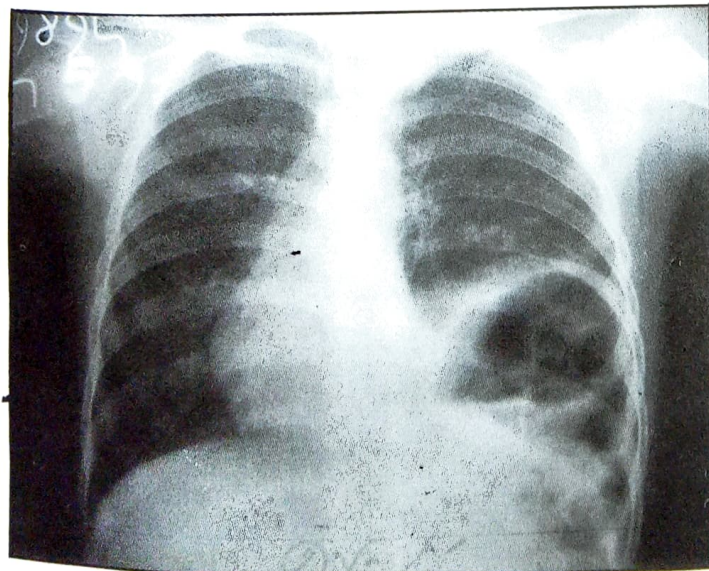


Fig-3 :

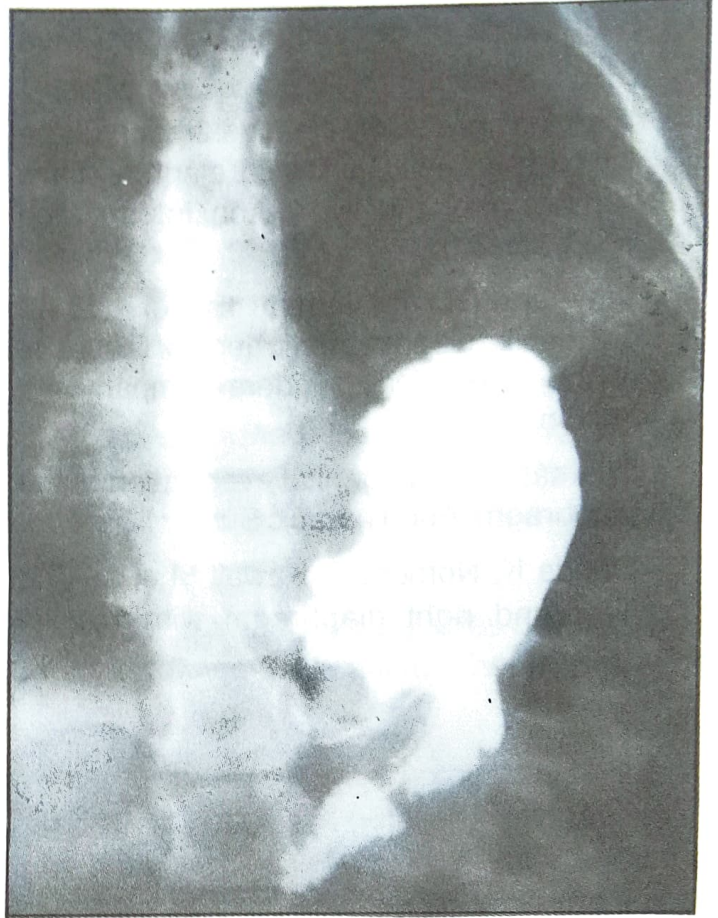


Fig-4 :

Discussion :

Eventration of diaphragm is not a common clinical entity and is therefore not always correctly diagnosed. To make a correct diagnosis screening by fluoroscopy will be helpful. Barium meal x-ray and barium enema of colon will confirm the diagnosis. Computed tomography will establish the diagnosis confidently. Asymptomatic patients does not require treatment symptomatic patient needs surgical plication.

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