

Spontaneous diaphragmatic hernia mimicking hydropneumothorax

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Abstract:

Although diaphragmatic hernias are most often associated with trauma rarely it may be spontaneous.It is harder to diagnose this patient without history of trauma as most of the symptoms are nonspecific. In such cases combined approach is required through physical examination and x-ray. Here in this report we present a 35 year old female patient who was admitted to emergency department with complains of pain abdomen, vomiting and breathlessness since 3 days and was diagnosed with spontaneous diaphragmatic hernia.

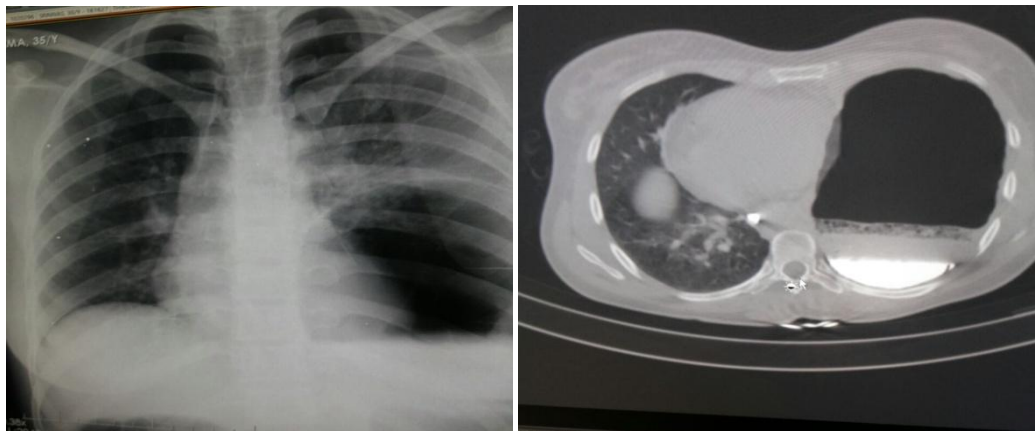
Introduction:

Acute diaphragmatic hernia following trauma is rare, despite high prevalence of trauma. Up to 5% of trauma patients may suffer traumatic diaphragmatic injury^[1,2]. Spontaneous acquired diaphragmatic hernia without any apparent history of trauma is even more rare presentation⁽³⁾.Diaphragmatic hernias are both congenital and acquired. In some cases spontaneous have also been documented. This spontaneous diaphragmatic hernia occur following heavy weight lifting.The incidence of spontaneous diaphragmatic hernias are usually 0.8-1.2%

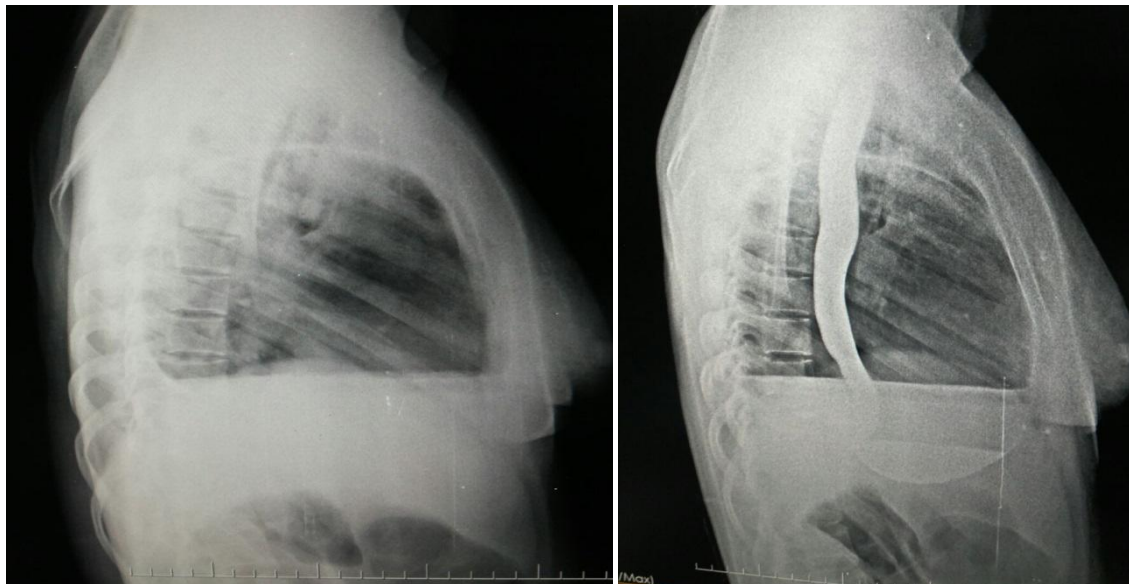
Case report:

A 35 year old female patient came to emergency department with h/o pain abdomen and vomiting since 2 days and breathlessness since 1 day grade 4. Pain abdomen is more in epigastric region non radiating, aggravated on eating food, and was associated with vomiting .h/o chest pain since 1 day radiating to left shoulder . no h/o cough or fever or orthopnea. On examination her heart rate was 98 beats/min, blood pressure was 110/80 mm hg, respiratory rate was 26cpm, spo2 95%. Per abdomen examination diffuse tenderness was present. There was tracheal deviation towards the right side, on percussion hyperresonant note was present in the left interscapular and suprascapular region and dull note in left infraaxillary areas and infrascapular areas. On auscultation decreased breathsounds was noted in left side and succussion splash was heard . so initially patient was clinically diagnosed with left hydropneumothorax.

Routine blood investigations were normal. chest radiograph was s/o pulled up diaphragm and air under the diaphragm occupying lower half of left hemithorax



usg abdomen suggestive of left lower lobe collapse with left sided diaphragmatic hernia barium swallow showed fundus of stomach in left hemithorax .computed tomography chest showed herniation of stomach into thoracic cavity on left side



Then patient was diagnosed to have left sided diaphragmatic hernia with herniation of stomach into left hemithorax probably volvulus of stomach immediate ryles tube insertion was done and patient was kept nil per oral ,surgical reference was taken and advised for emergency left thoracotomy was done. In another next 5 hours patient had severe hypotension, tachypnea and was started on inotropes and oxygen supplementation but patient could not be revived after 5 cycles of CPR

Discussion:

Spontaneous diaphragmatic hernia is one of the rarest thoracoabdominal emergencies, with 28 detailed reports published in world literature (1956-2009) ⁽⁴⁾Coughing was the preceding event in 9 (32%) patients, physical exercise in 6 (21%), vaginal delivery in 4 (14%), vomiting in 2 (7%) and massage in 1 (4%); no history was available for single comatose patient.

spontaneous diaphragmatic hernias may also occur. They are most commonly found at the esophageal hiatus or at the points of failure of the embryonic fusion of diaphragm. The latter are usually sub-costal (foramen of Morgagni, Larrey's spaces) or posterior (pleuroperitoneal or foramen of Bochdalek) in origin. Such occurrence has been reported in athletes, dancers, weightlifters, during exercise [3], eclampsia, labour [6], violent emesis, asthma and even pertussis.

In cases of diaphragmatic rupture even due to simple causes such as coughing, nausea or vomiting, the negative pressure in the thorax may lead to herniation of the intra-abdominal organs into the thoracic cavity. The difference in the pressure

between abdomen and thorax, which may reach up to 100mmHg during respiration, is the most important factor contributing to herniation of abdominal organs into thorax.

Diagnosis is based on clinical presentation i.e. dyspnea, palpitation, cyanosis, abdominal pain and distention and confirmed by imaging i.e. chest X-ray, CT scan, barium study and MRI. Differential diagnosis includes giant hiatal hernias, pulmonary sequestration, neoplasia, phrenic nerve palsy, atelectasis, pleural effusion and eventration of diaphragm⁽⁵⁾.

The management of diaphragmatic hernia is surgical and consists of reducing the viscera and sealing the diaphragmatic defect. In the present case, laparotomy was performed and primary repair of the defect was done with non-absorbable suture^(6,7).

Complications of diaphragmatic hernia include volvulus, incarceration, strangulation, hemorrhage and perforation of hollow viscus. Prognosis is good in adults but poor when complications appear such as organ ischemia and hemorrhage.

Conclusion:

Heavy weight-lifting can cause a spontaneous acquired diaphragmatic hernia. This condition is very rare and very difficult to diagnose unless a very high index of suspicion is kept in mind. A good history taking can give a clue. Surgical repair is the definitive treatment.

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