

Abdominal pain with unexpected pulmonary consequences

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CASE REPORT

A 42-year-old woman presented to the emergency room with acute, colicky epigastric pain causing difficulty in breathing. She was nauseous but did not vomit. For one month she had suffered several similar attacks, generally after meals. Her medical history was unremarkable. There was no previous (abdominal) trauma.

Physical examination revealed no abnormalities besides mild discomfort on palpation of the epigastric region. A routine blood examination and abdominal ultrasound were normal. Gastroscopy revealed no mucosal abnormalities but passing the pylorus proved abnormally difficult. Immediately after the endoscopy the patient experienced severe chest pain and dyspnoea. Breath sounds over the left lung were absent. A chest X-ray was performed (*figure 1*).

Figure 1. Chest X-ray



WHAT IS YOUR DIAGNOSIS?

See page 220 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (ON PAGE 218)

ABDOMINAL PAIN WITH UNEXPECTED PULMONARY CONSEQUENCES

DIAGNOSIS

Chest X-ray showed a tension gastrothorax. There is deviation of the heart to the right. The air-fluid level and visible haustration represent stomach and colon in the left hemithorax. Computed tomography (CT) scan (*figure 2*) showed a diaphragmatic hernia through which the stomach and part (splenic flexure) of the colon herniated into the chest cavity causing the colic. The air insufflated during the gastroscopy caused the tension gastrothorax. Treatment consisted of desufflation of the stomach through a nasogastric tube performed slowly to prevent pulmonary oedema. Several days later she underwent surgery: the spleen, stomach and part of the left colon were found to be intrathoracic. Splenectomy was performed, the stomach and colon repositioned intra-abdominally after which the diaphragm could be repaired. Recovery was uneventful. Tension gastrothorax has been described in children due to a congenital diaphragmatic defect or Bochdalek hernia.¹⁻⁴ Tension gastrothorax develops when the stomach herniated through a Bochdalek hernia is distended by trapped air.¹ In adults a nontraumatic gastrothorax through a Bochdalek hernia is very rare and to our knowledge only a few cases have been described.^{5,6} Tension gastrothorax in adults usually develops after traumatic rupture of the diaphragm and can be misdiagnosed as tension pneumothorax.⁷⁻⁹ Only

one case of tension gastrothorax as a result of traumatic diaphragmatic hernia in children has been reported.¹⁰

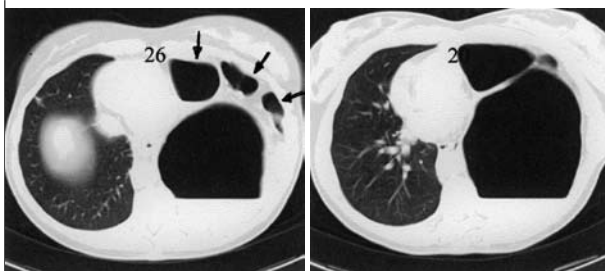
The diagnosis is made by a high level of clinical suspicion, chest X-ray reveals an air-fluid level and an elevation of the diaphragm, and a computerised tomography is useful in assessing the diaphragm and establishing the positions of the various intra-abdominal organs.¹⁰

Decompression of the distended stomach should first be attempted via a nasogastric tube.¹⁰ This should be performed slowly to prevent pulmonary oedema.¹¹ If this fails, decompression must be achieved either by needle puncture or by chest tube insertion into the stomach.¹ Definitive management is surgery when the patient has been stabilised.¹⁰

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Figure 2. CT scan of the thorax



Normal lung tissue on the right. Deviation of the heart to the right. The left hemithorax shows several cavities filled with air, the largest with an air-fluid level is the stomach, the others are part of the left hemicolon (arrows). Normal lung tissue is absent, only compressed lung tissue dorsomedial of the stomach (arrowhead).