Diaphragmatic Hernia Presenting With Intrathoracic Perforation

A ERDOGAN

Citation

Abstract
We have reported the adult patient's intrathoracic incarceration and perforation of the stomach on the left side of the diaphragmatic defect resulting as an empyema case. Besides similar cases are reported, it is not usual even it is the first in literature that without any trauma empyema and herniation secondary spontaneous gastric perforation rarely develops in the Bochdelak foramen of an adult.

Male aged 56 was taken to emergency with an acute epigastric pain and hematemesis on the left there was a pleural effusion diagnosis and thoracostomy tube is applied. But the symptoms continued and there can be no expansion in the lung. The left thoracotomy showed the incarceration and perforation of the stomach's fundus herniated in thorax located in the Bochdelak foramen in the diaphragma and posterolateral. The stomach and the diaphragma is successfully repaired by a surgical way.

If there is pleural effusion on the left of a patient suffering from epigastric pain and hematemesis diaphragmatic hernia and gastric perforation must be considered in a separating diagnosis.

INTRODUCTION
Congenital diaphragmatic hernias appear on the left side at the foramen of Bochdelak, and usually in the newborn and early infant period. Tachypnea, cyanosis and respiratory failure are usually seen (1). Adult diaphragmatic hernias are rare and appear usually after a trauma (1,2).

We report a left sided diaphragmatic hernia that developed in Bochdelak foramen in a 56 years old male patient. In this case, stomach and a piece of the omentum had herniated into the thorax, and a hemothorax and empyema had developed as a result of the stomach fundus region incarceration and perforation.

Thorax X-ray and gastrography with barium is needed for diagnosis, and for appreciating the diaphragma, gastroscopy is the best way, and must be applied if there is any suspicion.

PRESENTATION OF THE CASE
A 56 years old male patient with a sudden epigastric pain and hematemesis was taken to Akdeniz University Hospital emergency service. The pain in epigastric region was as if a blade was bogging. There had been nausea and bloody vomiting. There was no trauma, no systematic or chronic disease and no misconduct in the previous history. The patient who came with these complaints, was diagnosed with gastritis and he was given a medical therapy. After two days, fewer, pain on the left thorax, and dyspnea were added to his previous complaints. Therefore he was taken to emergency service again.

In routine laboratory blood tests, there were no abnormally findings except neutrophilia. His thorax X-ray showed pleural effusion on the left, but no pneumothorax (x-ray.1).
Pleural effusion was as well noticed on the left of the thorax by ultrasonography. In thorax computerize tomography the heart was noticed on the right side and they reported pleural effusion on the left side (c.t.1-2).

Figure 2

There had been a narrowing in the basal segment orifices of the left down lung lobe, which had been seen during bronchoscopy. Upper abdominal ultrasonography was defined as normal. During gastroscopy, the wall and mucosa of the gastric fundus was normal but wall and mucosa was edema in the region of the gastric corpus. There also were eroded places visible. Esophagoscopy and duodenoscopy were normal.

By thoracentesis, it had been defined as hemothorax and a thoracostomy tube drained approximately 500 cc of hemorrhagic pleural effusion. The patient whose symptoms got worse was consulted by our clinic. No expansion of the lung could be seen and an empyema was diagnosed. A thoracotomy was scheduled.

We found pleuritis with fibrine. We could see a part of the omentum and the gastric fundus herniated into the intrathoracic region through the Bochdelak foramen. In addition, it was noticed that the gastric fundus was incarcerated and perforated (photos1-2-3-4).
The perforated region which was part of the gastric fundus and the diaphragma were repaired successfully by surgical sutures. Postoperatively developed pleuritis was treated successfully with Cefazoline 3 gr/day, Amicasine 1 gr/day and Metronidazole 2 gr/day. They were totally administered for 7 days. There was mixed bacterial flora seen in the culture from the pleural effusion. We have not observed any complication during the hospitalization of the patient. The patient discharged from the hospital at the end of the twelfth day.

Patient controls were normal for the following first and third months (x-ray.2).
DISCUSSION

Delayed Bochdelak hernias usually appears through right side deflections. It is an advantage that the right lung almost contributes in closing the diaphragmatic defect. Literally after puberty there is no occurrence of such defects (3). Late occurrence of Bochdelak hernias have caused pulmonary infections, dyspnea, wheezing, chest pain, abdominal pain, nausea, vomiting, diarrhea and general deterioration (4-6). In addition, gastric and intestine volvulus, gastric fundus strangulation, and acute gastric dilatation with secondary tension pneumothorax have been reported (7-9).

Increased pressures during coughing and blunt trauma of the abdomen and thorax may increase the passing of the stomach from the diaphragmatic defect into the thorax.

In our case there was a cold infection and much coughing, but there was no trauma to the abdomen or thorax. The patient was not treated seriously first coming to the emergency service, because of his history of epigastric pain and peptic ulcer. He was treated for a peptic ulcer without further evaluation or thorax X-ray and gastric barium swallow. Most probably, this test would have shown the gastric fundus in the thorax.

Gastroscopy showed edema of the mucosa. Pleural effusion and minimal pericardial effusion were seen in the CT. There was no pneumothorax. Tube thoracostomy was performed because of the hemothorax.

As a conclusion, patients must be evaluated in detail. Thorax X-ray should have been taken even if there were only nonspecific symptoms.

References

Author Information
Abdullah ERDOGAN, MD
Thoracic and Cardiovascular Surgery, Akdeniz University Medical Faculty