

## Ruptured Ectopic Pregnancy with Hemothorax

### Hemotoraks ile Rüptüre olmuş Ektopik Gebelik

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#### ABSTRACT

Patients with an ectopic pregnancy commonly present with unilateral pain and vaginal bleeding between 6 to 10 weeks of gestation. However in our case, a patient presented at one week and 6 days of pregnancy which was complicated with right hemothorax. A right chest tube was inserted and drained out one liter of fresh blood. She successfully underwent an emergency laparotomy and left salphingectomy.

**Key Words :** Ruptured ectopic pregnancy, hemothorax

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#### ÖZET

Ektopik gebeliği olan hastalar genellikle tek taraflı ağrı ve 6-10. haftalar arasında vajinal kanama ile kendini gösterir. Ancak bizim olgumuzda sağ hemotoraksla komplike olan bir hafta ve 6 günlük gebeliği olan bir hasta sunuldu. Sağ göğüs tüpü yerleştirildi ve bir litre taze kan boşaltıldı. Başarılı bir şekilde acil laparotomi ve sol salphingektomi uygulandı.

**Anahtar Sözcükler:** Rüptüre ektopik gebelik, hemotoraks

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#### INTRODUCTION

Ectopic pregnancy can be potentially fatal if early diagnosis is missed. In the United Kingdom, 11.1/1000 pregnancies presented as an ectopic pregnancy(1). Patients with an ectopic pregnancy commonly present with unilateral abdominal pain and vaginal bleeding between 6 to 10 weeks of gestation. However in our patient, she presented atypically at 1 week and 6 days of gestation which was complicated with right hemothorax. Haemothorax is a clinical entity that in most cases are caused by trauma, coagulopathy, or iatrogenic causes through procedures such as central line insertion, thoracocentesis and pleural biopsies. In current practice, in developed countries, diagnosis relies on a combination of ultrasound scanning and serial serum beta-human chorionic gonadotrophin ( $\beta$ -hCG) measurements(2).

#### CASE REPORT

A 30-year-old primigravida lady presented to the Emergency Department (ED) with a chief complaint of shortness of breath which was associated with palpitations, lethargy and dizziness. She also had one episode of syncopal attack prior to her presentation to the ED. She denied any symptoms of pregnancy such as mood swings, food aversion nor nausea. She had a history of laparoscopic cholecystectomy 3 months ago without any post-operative complications. Physical examination showed that the patient was pale and tachypneic with respiratory rate of 28 breaths per minute. Her abdomen was soft, non distended, with mild tenderness over lower abdomen. The blood pressure was significantly hypotensive at 70/40mmHg and tachycardic with pulse rate of 110 beats per minute. The arterial blood gases (ABG) was suggestive of severe metabolic acidosis.

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She was immediately intubated for impending respiratory collapse. Blood investigation results revealed haemoglobin (Hb) levels of 9.4g/dl and platelet levels of  $289 \times 10^3/\mu\text{L}$ .

Chest X-ray (CXR) was done prior to intubation which showed right sided haemothorax, and chest tube was inserted. One liter of fresh blood was evacuated. Bedside ultrasound abdomen shows empty uterus, floating uterus with free fluid, and organized blood clots. A Computerized Tomography (CT) thorax was then planned to look for primary sources of haemothorax. Prior to CT scan, urine pregnancy test (UPT) was done and the results was positive and she was referred urgently to gynaecology team. The working diagnosis was ruptured ectopic pregnancy complicated with right haemothorax.

The patient was pushed to the operating theatre and underwent an emergency exploratory laparotomy and left salpingectomy. A total 12 pints of packed cells, 4 units of Fresh Frozen Plasma (FFP) and 4 units of platelets were transfused. Intraoperatively, she was hemodynamically supported with infusions of noradrenaline at a rate of 1.0 to 1.2 mcg/kg/min and dobutamine of 5 mcg/kg/min. The ventilation was good as she required low ventilator settings. Total estimated blood loss during the entire surgery was about 5.25 liters. The intraoperative diagnosis were left ampullary ruptured ectopic pregnancy with a ruptured corpus luteal cyst together with a massive hemoperitoneum.



Figure 1 : Pre intubation CXR of our patient showing massive right hemothorax.

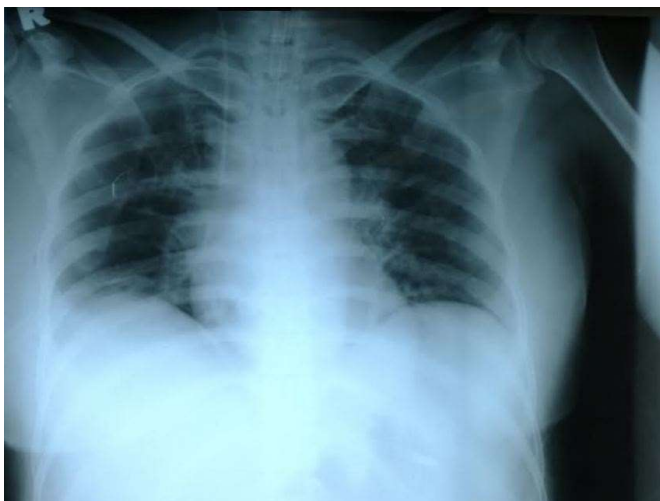


Figure 2 : CXR post chest tube insertion showing right lung expanded.

The patient was admitted to the intensive care unit (ICU) postoperatively and was successfully extubated on the next day and was discharged to home safely after 6 days post surgery. A CT Thorax, Abdomen and Pelvis (TAP) was done prior to off chest tube and results showed that there was subsegmental atelectasis of posterior segment left lower lobe with mild left pleural effusion.

There are no obvious defects of both hemi diaphragm. It was also noted that pancreas enhances homogeneously and multiple lobulated mildly enhancing soft tissue lesions in the peri-pancreatic region. These lesions measures between 2.3cm to 7.2cm in diameter which suggestive of pancreatic pseudocyst.

Her histopathology report showed chorionic villi and deciduas associated with extensive haemorrhage within the muscular wall and lumen of fallopian tube. There are no features of hydatidiform mole and she was then discharge from gynaecology clinic.



Figure 3: CXR post extubation after the right chest tube removal.

## DISCUSSION

Ruptured ectopic pregnancy does not always presented with complaints of per vaginal bleeding, pelvic tenderness or with a period of amenorrhea. In our patient, she presented with period of amenorrhea which only 1 week and 6 days with an episode of syncopal attack and other hypovolemic symptoms which eventually cause respiratory distress which required emergency intubation. Chest X-ray prior intubation accidentally revealed right sided hemothorax. Ruptured ectopic pregnancy and other causes of hemoperitoneum should be considered in the differential diagnosis of haemothorax in a young fertile female. Review of the literature revealed a few case reports of haemothorax associated with ectopic pregnancy. At least one of those cases occurred due to implantation on the diaphragm (3).

The other etiology of haemothorax in ectopic pregnancy is that the hemoperitoneum follows along the connective tissue sheaths of the esophagus and great vessels, and passing through the esophageal hiatus into the mediastinum, which subsequently ruptured into the pleural space (4). The other possible etiology of haemothorax include diaphragmatic defects either congenital, trauma or previous surgery and implantation of products of conception directly on surface of diaphragm.

Other possibilities in ectopic pregnancy with haemothorax are double pathology such as vascular abnormalities, for examples pulmonary arteriovenous malformations (PAVM) (5) and Hereditary Hemorrhagic Telangiectasia (HHT). Thoracic malignancies also should be ruled out which the reason of this patient proceed for urine pregnancy test prior to CT thorax.

In this case, the CT Thorax, abdomen and pelvic (TAP) scan showed multiple lobulated soft tissue lesions around pancreas suggestive of pancreatic pseudocyst with maximum size of 7.2cm. The pancreatic pseudocyst may be the cause for her right sided haemothorax through a rare complication-pancreaticopleural fistula (6), at the same time when she had a rupture ectopic pregnancy. In general, pancreatic pseudocysts develop approximately 3 to 4 weeks after acute pancreatitis, and are most often manifested by an epigastric mass or sensation of fullness, bleeding, fistula formation, infection, and extension are known complications of pancreatic pseudocysts (7).

#### CONCLUSION

Spontaneous haemothorax is a very rare presentation for ectopic pregnancy. Ruptured ectopic pregnancy should be considered in the differential diagnoses of women in reproductive age with spontaneous haemothorax.

#### Conflict of interest

No conflict of interest was declared by the authors.

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