Recurrent Pneumothorax in a Pregnant Woman with Family History of Spontaneous Pneumothorax

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Abstract
Spontaneous pneumothorax is a very rare condition in pregnancy. It is potentially life threatening for both the mother and the foetus. Thus, early diagnosis and proper management are of great importance. We present the case of a 36 years old pregnant woman in the 36th week of gestation. She presented in our department complaining of rapid onset of dyspnoea and chest pain. She had a history of spontaneous pneumothorax and a family history of spontaneous pneumothorax as well. After clinical examination and radiography imaging, the suspicion of pneumothorax was confirmed. The insertion of a chest tube was decided. The patient’s condition improved after the procedure and she delivered a healthy neonate by a caesarean section in the 39th week of gestation. We describe in detail the case, the diagnostic approach and the subsequent management.

Keywords: Familial spontaneous pneumothorax; Pregnancy

Introduction
Spontaneous pneumothorax is a rare condition during pregnancy but is potentially serious for both the mother and the foetus, as any impairment in ventilation in a pregnant patient may lead to hypoxia more severe than in a non-pregnant woman. Moreover, decreased maternal partial pressure of oxygen may seriously affect foetal oxygenation [1,2]. Over 10% of patients with spontaneous pneumothorax report a positive family history of the disease. While some cases can be attributed to rare connective tissue diseases, several families with familial spontaneous pneumothorax do not show clinical evidence of these disorders. HLA genotyping and alpha 1-antitrypsin phenotyping have been suggested useful in a family to identify those having an increased risk of spontaneous pneumothorax [3-5]. Recently, mutations in the gene encoding folliculin have been identified in individuals with familial spontaneous pneumothorax. We present a case of a 36 years old woman in her third pregnancy who presented at 36 weeks of gestation with recurrent pneumothorax. She also had a family history of spontaneous pneumothorax. We discuss the pathophysiology, the clinical presentation and the management of the case.

Case Study
A 36-year-old woman, gravida 3, para 2, at 36 weeks of gestation, presented at our hospital with dyspnoea and pleuritic chest pain. The symptoms were of sudden onset, the patient being seated. She had a medical history of spontaneous left side pneumothorax and she had been submitted to video-assisted pleurodesis and removal of the apical part of the upper lobe. She also had a family history of spontaneous pneumothorax; both her mother and grandmother experienced spontaneous pneumothorax. We present a case of a 36 years old woman in her third pregnancy who presented at 36 weeks of gestation with recurrent pneumothorax. She also had a family history of spontaneous pneumothorax. We discuss the pathophysiology, the clinical presentation and the management of the case.
5th min 10). Maternal request was the main reason for the caesarean section, despite the fact that the mother was informed that she could undergo a vaginal delivery. The patient’s postpartum course was uneventful. Chest radiography was performed 3 days after delivery and the tube was removed. The mother was advised to have a surgical pleurodesis in future, because of her personal and family history of recurrent pneumothorax.

**Discussion**

Spontaneous pneumothorax is a rare condition in pregnancy but is potentially serious for both the patient and the foetus. Not many cases of this entity have been reported during pregnancy, the most common causes being rupture of a sub pleural apical bulla and pulmonary lymphangiomatosis [1,2,6]. According to international literature, spontaneous pneumothorax can occur during the perinatal period, 25% in the first trimester, 22% in the second trimester and 53% in the third trimester [1,7]. Risk factors usually include an underlying respiratory infection, asthma, history of previous spontaneous pneumothorax, hyperemesis, cocaine use lymphangioleiomyomatosis, alpha 1-antitrypsin deficiency, familial spontaneous pneumothorax [1,6-12]. There is also a published case of trophoblastic tumour, with pneumothorax being the first clinical sign of the disease [13]. The diagnosis is mainly based on the clinical presentation and standard chest radiography. Ionizing radiation may do harm to the foetus, especially in early pregnancy, so risks and benefits from the diagnostic techniques and management have to be thoroughly considered [1,14]. Treatment criteria of pneumothorax in pregnant women are the same as in non-pregnant women. Therapeutic management ranges from hospitalization and simple observation in cases of small pneumothoraces, to thoracostomy and the tube was removed. The mother was advised to have a surgical pleurodesis in future, because of her personal and family history of recurrent pneumothorax.

**References**