

An Adult Bochdalek Hernia Presenting With Constipation and Shortness of Breath

Nefes Darlığı ve Konstipasyon ile Ortaya Çıkan Yetişkin Tipi Bochdalek Hernisi
Radyoloji

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Özet

Bochdalek hernisi, plöroperitoneal kanalın intrauterin 12. haftada non füzyonuyla oluşur ve 2200 ila 12500 canlı doğumda bir görülür. Çoğunlukla bebek ve yenidoğanda pulmoner semptomlarla ortaya çıkar. Yetişkin hayatta ortaya çıkması ise nadir olup genellikle asemptomatik ya da belli belirsiz semptomlarla birlikte. Bu belirtiler pulmonerden ziyade gastrointestinal sistemle ilgilidir. Bazı durumlarda tanı komplikasyonlar geliştikten sonra konup, bu durumlarda acil işlem uygulanmalıdır. Diafram defektinin tam yeri ve herni boyutları tespit edebildiği için torakal bilgisayarlı tomografinin altın standart olduğu kabul edilebilir.

Anahtar kelimeler: *Bochdalek, Herni*

Abstract

The Bochdalek hernia is pleuroperitoneal ducts' fusion defect, which takes place on the fourth and 12th gestational weeks and its incidence is 1 in 2200-12500 live births. It mostly presents with pulmonary symptoms in infants and neonates. Its presentation in adult life is infrequent and mostly asymptomatic or with vague symptoms, mostly gastrointestinal than pulmonary. Some of them are diagnosed after complications have developed, in this case urgent measures should be taken. Thoracal CT can be named as gold standart for its exact localization of the diaphragmatic defect and extent of the hernia.

Keywords: *Bochdalek, Hernia*

Introduction

Bochdalek hernia is a congenital diaphragmatic hernia occurring as a result of intrauterine fusion failure of posterolateral diaphragmatic foramina. They can, however, be acquired in adulthood due to a 're-opening' of the coronary ligaments¹. It majorly manifests in neonates and infants with respiratory symptoms and its adult form is very rare, but by the presentation of computed tomography (CT), it has been detected more day by day as an incidental finding in adults, who are asymptomatic or suffering complications². Here we present the multislice CT findings of an adult with vague symptoms.

Case Report

33 years old male referred to our hospital with a left sided pain and constipation for a couple of weeks. He described difficulty in bending his trunk and a degree of shortness of breath. His laboratory tests and abdominal exam showed no peculiarity. After he was scanned with 64- MDCT (multidetector computed tomography) and with intravenous contrast material administration, we detected a posterolateral defect in the diaphragma on the left side in his thoracal CT images. Abdominal visceral fat and a part of splenic flexura were herniated to the thorax through this diaphragmatic defect. He was recommended surgical treatment. (Figure 1, 2a, 2b)



Figure 1
Topogram of the patient

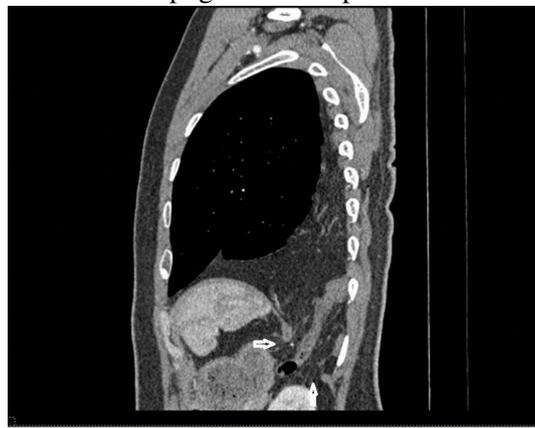


Figure 2A
Sagittal view of the Bochdalek hernia. The defect is shown with white arrows.



Figure 2B
The coronal view of the defect. Again it is shown with white arrows.

Discussion

Bochdalek hernia is a nonclosure of pleuroperitoneal ducts in intrauterin life and mostly manifests in neonates

and infants ^{3,4} with the incidence of approximately 1 in 2200 to 12500 live births ⁵. The majority of adult Bochdalek hernias are asymptomatic and found incidentally, but asymptomatic Bochdalek hernias may lead to incarcerated bowel, intraabdominal organ dysfunction, or severe pulmonary disease ^{1,6,7}.

The symptoms present themselves as gastrointestinal complaints such as changes in bowel habits, nausea and cramp like abdominal pain which result from complications like the obstruction of the herniated organ. The pulmonary complaints such as shortness of breath, recurring chest infections and other pulmonary sequels are less encountered ⁸. Bochdalek hernias may contain one or more of the following: stomach, spleen, colon, omentum, and small bowel. Also liver, gallbladder, pancreas, kidney, or retroperitoneal fat has infrequently been described as hernia contents ³. Symptomatic adult Bochdalek hernias are usually left-sided due to two possible mechanisms. The compression of the caudate lobe of the liver on the right pleuroperitoneal canal and thus preventing the right sided herniation is the first possible mechanism ^{9,10}. Whereas the right hemidiaphragm fully forming embryologically before the left, may be contributing in the prevention of the right sided herniation ^{9,3}.

Diagnosis can be made by utilizing imaging tools. Plain film can give an idea of the hernia with the colon gas seen over the diaphragm ⁸, but plain film has low sensitivity and it can lead to misdiagnosis and confusion with other thoracic pathologies like left middle lobe collapse, air space consolidation, pericardial fat pad, sequestration of the lung, mediastinal lipoma, or anterior mediastinal mass ^{6,11}. CT is highly dependable for making the accurate diagnosis by directly visualising the exact localization of the diaphragmatic defect, and the contents of the hernia. The accurate diagnosis is the first step to proper management and avoidance of unnecessary comprehensive surgical interventions. Like making the accurate diagnosis, the timely treatment is also crucial for the patients. Severe complications are prevented if this imaging is performed without delay.

The treatment of Bochdalek hernia is operative and according to the severity of the symptoms and the accuracy of the procedure, patients generally do not have any recurrence and remain asymptomatic ².

Conclusion

With the various and vague clinical symptoms, Bochdalek hernia is difficult to diagnose. CT is superb in the diagnosis of diaphragmatic hernias with the capability of multiplanar reconstruction. It can also detect any potential co-morbidities and prevents misdiagnosis which are possible without the utilization of CT.

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