

An Elderly Patient with Bochdalek's Hernia Case that Implies Left-Sided Intratoracic Renal Ectopia

Hakan Önder¹, Şükran Güler¹, Güven Tekbaş¹, Ayla Büyükkaya², Hatice Gümüş¹, Faysal Ekici¹, Akın Önder³, Aslan Bilici¹

ABSTRACT

Bochdalek hernia is a congenital disease characterized by protrusion of the abdominal organs into the thorax through the posterior defect in the diaphragm. The detection of incidental bochdalek hernia has increased because of the widespread use of the multidetector computed tomography. It is very rare in adult population. Intrathoracic kidney in bochdalek hernia is uncommon. In this paper, a 78 year-old man who had bochdalek hernia with a kidney in the left side of the thoracic region is presented.

Key words: Bochdalek hernia , intrathoracic kidney , diaphragmatic hernia

Yaşlı Bir Hastada İntratorasik Ektopik Böbrek İle Seyreden Bochdalek Hernisi

ÖZET

Bochdalek hernisi posterior diafragmadan abdominal organların toraks içerisine yer değiştirmesi ile karakterize konjenital bir hastalıktır.Bochdalek hernisinin insidental olarak tespiti çok kesitli bilgisayarlı tomografinin(ÇKBT) yaygın kullanılmasıyla artmıştır.Bochdalek hernisi yaşlı kişilerde oldukça nadir görülmektedir. Herni içerisinde böbrek görülmesi de yaygın değildir.Bu yazıda toraksda solda, içerisinde sol böbrek ve kalın barsak ansları bulunan 78 yaşında bir olgu sunulmuştur.

Anahtar kelimeler: Bochdalek hernisi, İntratorasik böbrek, diyafragma hernisi

INTRODUCTION

A Bochdalek hernia occurs when abdominal contents herniated through the posterolateral segment of the diaphragm (1). Bochdalek hernia is a type of congenital diaphragmatic hernia that typically occurs in childhood, but may rarely be detected in adults and remain clinically silent until adulthood present as life-threatening surgical emergencies (1,2). The incidence of intrathoracic kidney with diaphragmatic hernia is low (less than 0.25%) (3). We report a rarely seen case of Bochdalek hernia at adult age, presented with left intrathoracic kidney, comprehending the radiological findings and literature data.

CASE

A 78 year-old man referred to our clinics for ultrasonographic examination complaints of abdominal pain and shortness of breath. The ultrasound examination revealed that left kidney was not in its usual location. Thoracoabdominal multi-slice computed tomography was performed. There was a large left diaphragmatic defect, and left kidney was observed in left hemithorax inspite of its normal location (Figure 1). Moreover, transverse colon and omentum herniated to left hemithorax. (As the kidney of the patient was in thorax, it did not have any symptoms, and there were a number of cysts in the kidney in thorax. On sagittal (Figure 2) reformatted scene,

¹Dicle University, School of Medicine, Department of Radiology, Diyarbakır, Turkey., ²Düzce University, School of Medicine, Department of Radiology, Düzce, Turkey., ³Dicle University, School of Medicine, Department of General Surgery, Diyarbakır, Turkey

Correspondence: Hakan Önder
Department of Radiology, Dicle University, School of Medicine, Diyarbakır, Turkey
Tel: 905333242691
E-mail: drhakanonder@hotmail.com

Received: 28.02.2011, Accepted: 20.12.2011

a wide defect on left posterior side of the diaphragm and a left ectopic kidney with transverse colon and omentum herniated to left hemithorax through this area were observed. Since the patient was too old to have an operation, we decided to observe him.

DISCUSSION

Bochdalek's hernia is a congenital diaphragmatic hernia that arises as a result of improper fusion of the posterolateral diaphragmatic foramina. It is a common congenital anomaly, occurring in approximately 1 in 2200 to 12,500 live births, but is widely considered to be extremely rare in adults (2). The late presentation of Bochdalek hernia usually occurs with the right side defects. Presence of liver on the right side partially covers the diaphragmatic defect. Notwithstanding silent left side hernias that were diagnosed at late stages, were reported, cases of postpubertal period or at midages and elderly were very rare in literature (4). As far as we know our patient is the most elderly one. So far his illness has not been diagnosed because he has lived in rural areas. Most Bochdalek hernias present with life-threatening cardiorespiratory distress in the neonatal period. Rarely, hernias remain clinically silent until adulthood present as life-threatening surgical emergencies (1).

The clinical symptoms of diaphragmatic herniation frequently are vague and nonspecific, including chest pains, dyspnea, and gastrointestinal complaints (2). Bochdalek hernias typically contain one or more of the following: stomach, spleen, colon, omentum, and small bowel. Involvement of the liver, gallbladder, pancreas, kidney, or retroperitoneal fat has infrequently been described (1). Similarly, a left Bochdalek hernia was accompanied by left intrathoracic kidney in our case. Usually there is no pulmonary component in the adult type of Bochdalek hernia (1). The symptoms of hernia may be intermittent or constant, vague or distinct, depending on its presentation (30% strangulation risk), size, and content. Pulmonary symptoms include chest or shoulder pain, cough, shortness of breath, and/or dyspnea. Intrathoracic kidneys are usually asymptomatic, in contrast to pelvic kidneys, and are incidentally found on chest radiography (3). Our case didn't have any symptoms except abdominal pain and shortness of breath that became symptomatic lately.

The cause of intrathoracic kidney is uncertain. Previously it was thought to be induced by a maldevelopment of

the pleuroperitoneal membrane, resulting in a foramen (Bochdalek defect) in the posterior leaf of the diaphragm. This may be unlikely, however, since the incidence of intrathoracic kidney with Bochdalek hernia is reported to be less than 0.25% (5). Intrathoracic kidney is a very rare finding; most are found in males and are asymptomatic (6). Only 0.25% is associated with a diaphragmatic hernia (6). Four basic types of intrathoracic kidneys have been described (3): 1. True thoracic ectopia with a normally developed dorsal diaphragm; 2. Eventration of the diaphragm; 3. Diaphragmatic hernia, either a congenital diaphragmatic hernia defect or acquired herniation; 4. Traumatic rupture of the diaphragm with renal ectopia. Our patient did not have a history of trauma; therefore, he belonged to congenital diaphragmatic defect with herniated left kidney (3).

Computed tomography provides not only the detection of a posterior mediastinal lesion but also the visualization of its contour, extent and size. The differential diagnosis from other thoracic masses such as omental hernias through Morgagni's foramen or esophageal hiatus and mediastinal lipomatosis can be made easily on the basis of low-density fatty components of these structures. The typical contrast enhancement of pelviciceal structures and the typical appearances of soft tissue density of kidney can be best diagnosed by computed tomography (3). In addition, conventional computer tomography scan has been reported to have sensitivities of 78% for left-sided and 50% for right-sided hernias (2). Management with Bochdalek hernia is a contradiction. There is increased risk of complications in. Wide hernia is accompanied by abdominal organs. In such cases, surgical intervention should be considered. Asymptomatic cases can be followed conservatively (6-9).

As a result, as far as we know the patient we examined is the oldest person who has Bochdalek hernia. The incidence of Bochdalek hernia in adulthood is much more than it's predicted. Detectability of incidental Bochdalek hernia is increased with the clinical use of multi-slice computed tomography. Bochdalek hernia must be kept in mind in routine thorax and abdominal computed tomography.

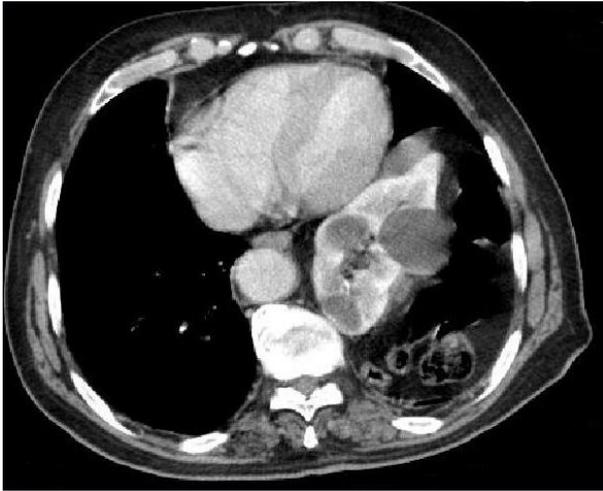


Figure 1. Axial contrast-enhanced CT scans shows, left kidney and transverse colon and omentum in left hemithorax



Figure 2. A: Sagittal reformatted CT scans shows a wide defect on left posterior side of the diaphragm and a left ectopic kidney with transverse colon herniated to left hemithorax, B: Coronal reformatted CT scan

REFERENCES

1. Losanoff JE, Sauter ER. Congenital posterolateral diaphragmatic hernia in an adult. *Hernia* 2004;8:83-5.
2. Goh BK, Teo MC, Chng SP, et al. Right-sided Bochdalek's hernia in an adult. *Am J Surg* 2007;194(3):390-1.
3. Lee CH, Tsai LM, Lin LJ, et al. Intrathoracic kidney and liver secondary to congenital diaphragmatic hernia recognized by transthoracic echocardiography. *Int J Cardiol* 2006;113:73-5.
4. Erdoğan A, Eser İ, Demircan A. Diaphragmatic hernia presenting with intrathoracic gastric perforation: case report *Turkish J Thorac Cardiovasc Surg* 2002;10:178-80.
5. Obatake M, Nakata T, Nomura M, et al. Congenital intrathoracic kidney with right Bochdalek defect. *Pediatr Surg Int.* 2006;22(10):861-3.
6. Karaoglanoglu N, Turkyilmaz A, Eroglu A, et al. Right-sided Bochdalek hernia with intrathoracic kidney. *Pediatr Surg Int* 2006;22(12):1029-31.
7. Bedii Salman A. Left-sided congenital diaphragmatic hernia associated with intrathoracic ectopic liver lobule. *Eur J Cardiothorac Surg* 2002;21(3):558-60.
8. Subramanian VS, Goldfarb DA. Right-sided intrathoracic renal ectopia with Bochdalek's hernia. *Urology* 2008;72(5):1016-7.
9. Kocakuşak A, Arıkan S, Sentürk O, et al. Bochdalek hernia in an adult with colon necrosis. *Hernia* 2005;9:284-7.