Case report

A sudden death of a prisoner: A rare case of adult presentation of Bochdalec hernia

ULMS Perera, WNS Perera, WRAS Rajapaksha
Department of Forensic Medicine, Faculty of Medicine, University of Kelaniya

**Corresponding author: Tel: 2958219. E-mail address:* nirperera2000@yahoo.com

Abstract

Mostly diaphragmatic hernias are due to congenital or secondary to a traumatic rupture of the diaphragm. From this the incidence of congenital diaphragmatic hernias varies from 1: 2000 to 1: 5000 live births. Bochdalec hernia which is the commonest type, accounts for 75-85% of it. This condition is diagnosed antenatally or neonatally, only 5% are presented after neonatal period. We report a rare case of asymptomatic congenital Bochdalec hernia in an adult male prisoner who had died in the prison cell. A 26 year old male was brought dead to a tertiary care hospital where the prison officers stated that the deceased had a sudden attack of respiratory distress and collapsed. Post mortem examination revealed a left sided diaphragmatic hernia with collapsed left lung, mediastinal shift to the right and gangrenous small bowel in the chest cavity. Cause of death was ascertained as acute respiratory distress due to mediastinal shift due to strangulated diaphragmatic hernia. Congenital diaphragmatic hernia in an adult is a diagnostic challenge. The diagnosis should be considered in patients presenting with acute chest or abdominal pain or with chronic vague inconsistent cardio respiratory and abdominal symptoms.

Key words: *diaphragmatic hernia, Congenital Bochdalec hernia*

Introduction

Diaphragmatic hernias most of the time are due to congenital or secondary to a traumatic rupture of the diaphragm.[1] From this the incidence of congenital diaphragmatic hernias varies from 1: 2000 to 1 : 5000 live births.[2] Bochdalec hernia which is the most common type, accounts for 75-85% of all congenital diaphragmatic hernias.[3][4][5][6] Most of them are diagnosed antenatal or in the neonatal period with respiratory symptoms.[3][7] Only 5% of congenital diaphragmatic hernias are presented after neonatal period, most of the time with chronic respiratory and gastrointestinal problems.[2][7] According to literature approximately over 100 cases of occult Bochdalec hernias in asymptomatic adults have been reported.[8] We report a case of asymptomatic congenital bochdalec hernia in an adult male prisoner who died in the prison cell. Literature review from Med Line didn't reveal any published case from Sri Lanka.

Case history

A 26 year old male prisoner who was an accused of an alleged murder was brought dead to the Out Patient Department of Tertiary care unit by prison officers. According to the prison officers the deceased had a sudden attack of respiratory distress and then he had collapsed. According to the history given by his wife the deceased was suffering from on & off mild wheezing attacks and had taken treatment from several general practitioners. Other than the wheezing attacks the deceased past medical history was unremarkable and there was no history of past penetrating abdominal or thoracic traumatic injury.

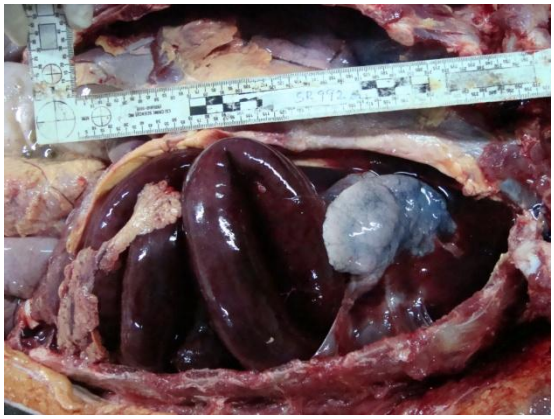

Figure 1: Abdominal contents in the chest cavity

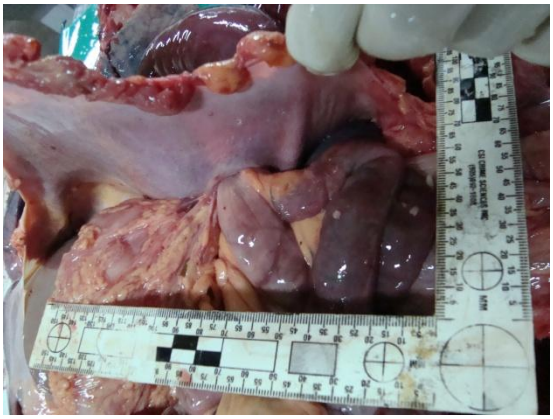

Figure 2: Posterior lateral defect in the left dome of the diaphragm

External examination of the deceased revealed no injuries or scars to suggest previous trauma. There were no internal or external injuries in the body. Internal examination of the chest cavity had revealed 800ml of blood stained pleural effusion and left sided collapsed lung. Mediastinum was shifted to the right side. Jejunum, proximal part of the ileum and part of the omentum had gone into the left chest cavity via posterior lateral defect in the left dome of the diaphragm. (Figure 1 & 2) Bowel in the chest cavity was gangrened. There was no other pathologies detected. Toxicological analysis of blood revealed negative for alcohol and common poisons. Cause of death was ascertained as acute cardio respiratory distress due to mediastinal shift due to strangulated diaphragmatic hernia.

Discussion

Congenital diaphragmatic hernias when presented in adulthood is difficult to diagnose as they will present with vague respiratory and abdominal symptoms.[1][7] Acute herniation of abdominal viscera through a congenital diaphragmatic defect in adults most often occur due to a sudden increase in intra abdominal pressure due to conditions like pregnancy, trauma and postural changes. Once the abdominal viscera are within the thoracic cavity it will remain there because of the pressure gradient. If a small defect is present it tends to cause strangulation of viscera and later necrosis causing perforation and peritonitis. However, large defects as seen in our case will present at the beginning with mild respiratory symptoms or with respiratory distress. Afterwards the mass effect of the intra thoracic viscera will directly compress the heart and lungs. Mediastinal shift can kink the vena cava and pulmonary veins. It will impair the venous return causing reduction of the cardiac out put. Compression of the lungs will cause respiratory distress.[7] These combined effects had caused the death of the person.

Conclusion

Congenital diaphragmatic hernia in an adult is a diagnostic challenge. The diagnosis should be considered in any patient presenting with acute chest or abdominal symptoms with chronic, vague and inconsistent cardio respiratory symptoms.

References

1. Coste C, Jouvencel P, Debuch C, Argote C, Lavrand F, Feghall H, Brissaud O. Delayed discovery of congenital diaphragmatic

hernia: diagnostic difficulties. Arch Pediatric 2004; 11(8):929-31.

2. Banac S, Ahel V, Rozmanic V, Gazdik M, Saina G, Mavrinac B. Congenital diaphragmatic hernia in older children. Acta Medicine Croatica 2004; 58(3):225-8
3. Merin RG. Congenital diaphragmatic hernia from the anaesthesiologist viewpoint. Anesthesia Analgesia 1966; 45: 44-52
4. Durham TM, Green JG, Hodges ED, Nique TA. Congenital diaphragmatic hernia: implications for nitrous oxide use in Dentistry, Special Care Dentist 1993; 13: 107-9
5. Cullen MI, Klein MD, Philippart AI. Congenital diaphragmatic hernia. Surgical Clinical North American 1985; 11: 1115-38
6. Williams R. Congenital diaphragmatic hernia- A review. Heart Lung 1982; 11: 532-40
7. Mamta Bhardwaj, Susheela Taxak, K N Rattan, Parveen Goyal, Manoj Aggrawal: Late Presentation of Congenital Diaphragmatic Hernia- Anaesthetic considerations. The Internet Journal of Anesthesiology. 2008. Volume 16 Number 2.
8. MarFan MJ, Coulson ML, Siu SK. Adult incarcerated right sided Bochdalek hernia. Australia New Zealand J Surg.1999; 69:239-41.

Contribution of authors

Performing the autopsy-ULMSP

Supervision to the autopsy- WNSP

Opinion- ULMSP, WNSP

Writing the manuscript –WNSP

Revising the manuscript- WNSP, WRNSR