

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Dual mesh repair for a large diaphragmatic hernia defect: An unusual case report



Metin Ercan, Mehmet Aziret*, Kerem Karaman, Birol Bostancı, Musa Akoğlu

Sakarya University of Faculty of Medicine, Department of General Surgery, Sakarya, Turkey

ARTICLE INFO

Article history:

Received 28 July 2016

Received in revised form 3 October 2016

Accepted 5 October 2016

Available online 11 October 2016

Keywords:

Traumatic diaphragm rupture

Diaphragm hernia

Dual mesh

ABSTRACT

INTRODUCTION: Diaphragmatic hernia secondary to traumatic rupture is a rare entity which can occur after stab wound injuries or blunt abdominal traumas. We aimed to report successfully management of dual mesh repair for a large diaphragmatic defect.

CASE REPORT: A 66-year-old male was admitted with a right sided diaphragmatic hernia which occurred ten years ago due to a traffic accident. He had abdominal pain with worsened breath. Chest X-ray showed an elevated right diaphragm. Further, thoraco-abdominal computerized tomography detected herniation a part of the liver, gallbladder, stomach, and omentum to the right hemi-thorax. It was decided to diaphragmatic hernia repair. After an extended right subcostal laparotomy, a giant right sided diaphragmatic defect measuring 25 × 15 cm was found in which the liver, gallbladder, stomach and omentum were herniated. The abdominal organs were reduced to their normal anatomic position and a dual mesh graft was laid to close the diaphragmatic defect. Patients' postoperative course was uneventful.

DISCUSSION: Diaphragmatic hernia secondary to trauma is more common on the left side of the diaphragm (left/right = 3/1). A right sided diaphragmatic hernia including liver, stomach, gallbladder and omentum is extremely rare. The main treatment of diaphragmatic hernias is primary repair after reduction of the herniated organs to their anatomical position. However, in the existence of a large hernia defect where primary repair is not possible, a dual mesh should be considered.

CONCLUSION: A dual mesh repair can be used successfully in extensive large diaphragmatic hernia defects when primary closure could not be achieved.

© 2016 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Traumatic diaphragmatic rupture (TDR) or diaphragmatic injury is a rare, life-threatening clinical condition which usually occurs after thoraco-abdominal blunt or penetrating injuries [1]. The incidence of isolated TDR is 0.2–1.9% [2]. Left sided diaphragmatic rupture occurs from 80 up to 90% after blunt TDRs, whereas right sided diaphragm rupture is less frequently seen. [2]. Combined herniation of the liver, stomach, gallbladder and omentum through the diaphragmatic defect is extremely rare and difficult to recognize [3].

In patients with diaphragmatic hernia, the clinic presentation is related according to herniated organs or tissues and to their occupied volumes in the thorax. Abdominal pain, nausea and vomiting, worsened breath and tachycardia are generally present in symptomatic patients. However, some patients are asymptomatic whose diagnosis may be delayed for many years, and herniation into the

thorax may increased over time [1–3]. Blunt traumatic injuries usually presents within months or years in addition with herniation of abdominal organs to the thorax which carry a mortality rate of 30–60% [4–6].

The patient's history, thorax X-Ray, thoraco-abdominal computed tomographies (CT) are useful for diagnosis of diaphragmatic hernia [4,7]. Curative treatment method is primary repair of the diaphragmatic hernia defect. However, there is no consensus for timing of surgery which is usually performed when symptom and signs become obvious [8–10]. Herein, we present the management of a giant diaphragmatic hernia with dual mesh repair.

2. Case report

A 66 year-old male patient was admitted for delayed diaphragmatic hernia with complaints of abdominal pain and worsened breath. The patient had a chronic obstructive pulmonary disease and a history of blunt trauma more than 10 years duration. On physical examination, the trachea area was close and lung sounds were decreased in the right inferior thorax. Chest X-Ray showed an elevated right diaphragm (Fig. 1). Thoraco-abdominal CT detected an elevated right diaphragm due to herniation of liver, gallblad-

* Corresponding author at: Kemalpaşa mah. 111. sok. Platinpark sitesi, C Blok No 6, Adapazarı Turkey.

E-mail address: mhmtaziret@gmail.com (M. Aziret).



Fig. 1. Chest X Ray showing an elevated right diaphragm.

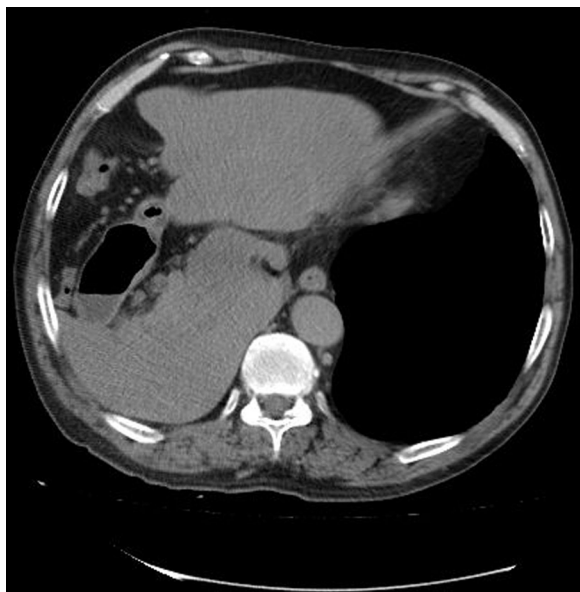


Fig. 2. Herniation of the liver, gallbladder, omentum and stomach in thoracic CT.

der, stomach and omentum. (Fig. 2). The patient underwent surgery with ASA-3 (American society of anesthesia). The abdominal cavity was opened with Makuuchi incision under general anesthesia. During the abdominal exploration, right lobe of the liver, gallbladder, stomach and omentum were not in their anatomical position and these organs and tissues extended to the right thorax through the diaphragmatic defect. Diaphragmatic hernia defect was approximately 18 × 15 cm in size (Fig. 3). The herniated right lobe of liver, gallbladder, stomach and omentum were relocated to their anatomical position after meticulous dissection of the adhesions (Figs. 4 and 5) Atelectasis of right lobe was gradually opened by giving positive pressure. A dual mesh (Physiomesh, Johnson&Johnson, Ethicon, Germany) was prepared for the extensive diaphragmatic defect which could not be achieved by primary closure. The dual mesh was properly laid to strong diaphragm and it was primary sutured with interrupted 2-0 polypropylene sutures (Fig. 6). A thorax tube was placed after hemostasis. The patient's postoperative course was uneventful with enough expansion in the right lung (Fig. 7). The patient was discharged on the 12th postoperative day. The 3th month follow-up confirmed the healing of the diaphrag-

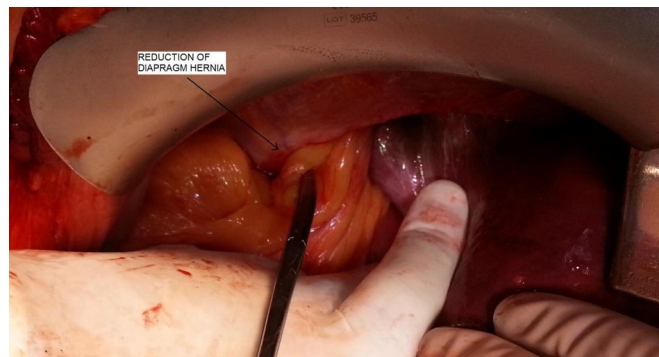


Fig. 3. Intraoperatively reduction of herniated organs.

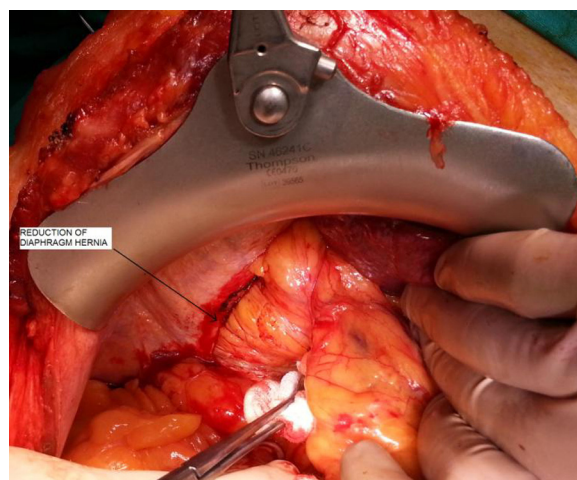


Fig. 4. Reduction of herniated organs.

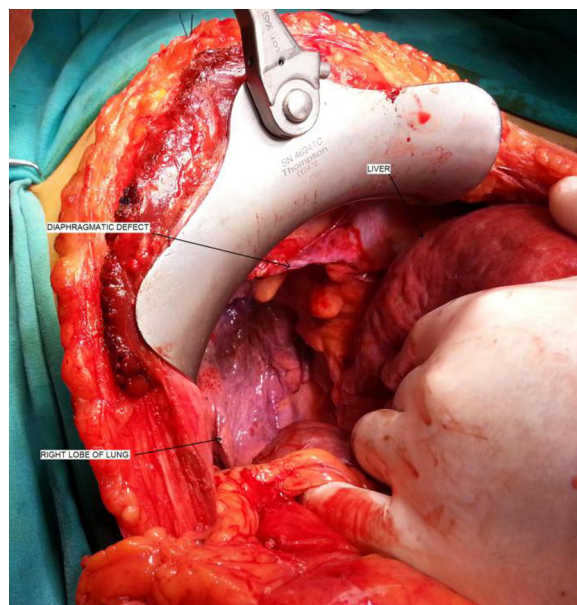


Fig. 5. Appearance of giant diaphragmatic defect.

matic hernia (Fig. 8). The patient has no initial symptoms and his life satisfaction is good after surgery.

Download English Version:

<https://daneshyari.com/en/article/8833277>

Download Persian Version:

<https://daneshyari.com/article/8833277>

[Daneshyari.com](https://daneshyari.com)