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Case Report

Laparoscopic repair of adult retrosternal morgagnis hernia with interlocking barbed suture

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ABSTRACT

We are reporting a case of 35 year male with history breathlessness and palpitation which increased on lying down. A Morgagni hernia was diagnosed with a computer tomographic (CT) scan, which later proved out to be a left sided morgagnis hernia with a defect extending retrosternally. Laparoscopic repair of the same was done using self-retaining interlocking sutures.

Keywords: Laparoscopic, Adult diaphragmatic hernia

INTRODUCTION

Foramen of morgagni hernia in adults are relatively rare. It was first described in the 1700s and is the least common type of diaphragmatic hernia, contributing only 1–6% of all diaphragmatic hernias.[1,2] Reported here is an interesting case of a central diaphragmatic hernia which could be a variant of Morgagni hernia presenting in a patient with history of shortness of breath and palpitation increased on lying down.

CASE REPORT

A gentleman aged 40 years presented to surgical OPD after being evaluated on medical side for palpitation and shortness of breath. On examination patient was stable with pulse of 73 blood pressure = 120/80.Chest examination revealed decreased breath sounds on left side on lying down. The patient was admitted for evaluation and further management. Baseline investigations were normal including pulmonary function test and ECG.

Oesophagoduodenoscopy was normal. Barium study showed the evidence of herniation of transverse colon into the chest. CECT chest confirmed the presence of diaphragmatic hernia by showing the presence of transverse colon inside the pleural cavity. Laparoscopic repair of defect was planned. Umbilical port was created by direct trocar insertion. Rest of the two ports were created under vision after achieving pneumoperitoneum in both upper quadrants. Herniation of left side of diaphragm was confirmed with a defect of approximately 5 cm. The defect was extending retrosternal also.

Excision of sac was avoided in view of dense adherence of the same with pericardium. Margins of diaphragm were approximated using self-retaining interlocking sutures. This was further strengthened by mobilization of falciparum ligament and fixing of the same over the suture line. Postoperative period remained uneventful and the patient was relieved of the symptoms and was discharged after 4th post-operative day in a satisfactory condition. Repeat chest x-ray and CECT chest after one month was normal.

DISCUSSION

Hernia of Morgagni although an anterior defect in the diaphragm but usual presentation in adulthood is through a paramedian defect. It occurs in a central retrosternal location in children.[3] It could be found incidentally in

adulthood or can present with visceral obstructing hernia.[4] Symptoms of these hernias may present according to the herniated viscera. Morgagni hernias containing bowel have risk of incarceration and may require repair on presentation.[5]

Figure 1: Barium Follow through showing herniation of colon into the pleural cavity.

Figure 2: Chest x-ray normal.

Figure 3: Laparoscopic view of hernia containing colon.

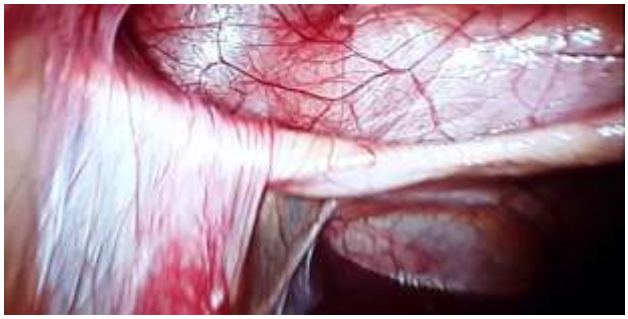

Figure 4: laparoscopic view of hernial defect after reduction of contents.

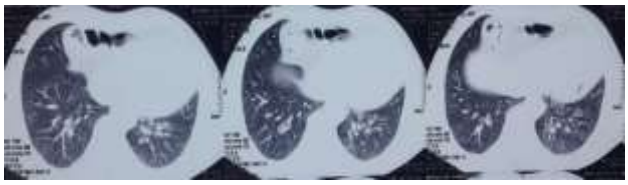

Figure 5: CECT Chest showing large gut herniation anteriorly into the pleural cavity.

The conventional 10-12 cm midline laparotomy approach has long been the standard approach for Morgagni hernia repair. However, problems related to open surgery like wound problems, postoperative pain, and cosmesis, adhesion obstruction, can be major concerns for these patients. Although laparoscopic repair of the Morgagni hernia was first described in the mid-1990s, the number of reported cases has been small because it is a rarity.[6]

We performed laparoscopic repair using interlocking self-retaining sutures. A laparoscopic approach was sufficient for reducing and completing the tension free repair of hernial defect. Prosthetic patch repair could be used to reduce recurrence by avoiding the tension on suture line.[7] However small defects of 3 to 5cm could be closed primarily in tension free manner. In our case we felt that attachment of mesh with an overlap of 4-5cm would not be feasible. The use of interlocking barbed suture helped

in spreading the strain on the ring throughout the length of the hernia ring.

Figure 6: Laparoscopic reduction of hernia.

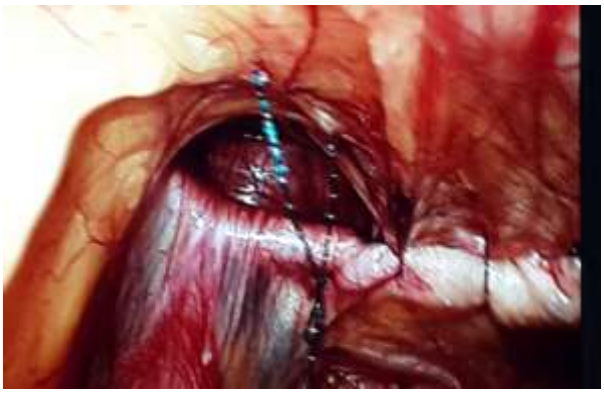

Figure 7: Laparoscopic repair of hernial defect using interlocking self-retaining sutures.

Surgery should be considered in all cases because Morgagni hernia is likely to cause or induce strangulation, spontaneously recovery is rare [8, 9]. Surgery always consists of reduction of the herniated organs, ligation of the hernia sac, and closure of the hernia defect.[10,11] Prognosis after surgery is good, recurrence is rare indeed.[12]

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