CASE REPORT

Congenital Right Morgagni Hernia Presenting in an Adult—a Case Report

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Abstract Patients with congenital diaphragmatic hernias (CDH) usually present in the neonatal period with respiratory distress. Delayed presentation of CDH in adults is rare and difficult to diagnose. We present a 42-year-old female patient who came with complaints of epigastric pain and breathlessness on exertion. X-ray and CT scan of the chest revealed a right-sided Morgagni hernia. The contents of the hernia were reduced and a primary tension free repair of the hernia defect was done through laparotomy. The postoperative course was uneventful. A strong clinical suspicion and good interpretation of radiological images help diagnose CDH which present late. Prompt surgical repair is mandatory and the outcomes are usually favorable. Primary repair is usually successful; however, mesh repair may be required for larger defects.

Keywords Congenital diaphragmatic hernia (CDH) · Morgagni hernia · Delayed presentation of CDH · Diaphragmatic hernia · Bochdalek hernia

Background

Congenital diaphragmatic hernias (CDH) are reported to occur once in 2000–5000 live births [1]. Patients with CDH usually present in the neonatal period with respiratory distress, requiring early surgical repair [2]. The prognosis depends on the severity of pulmonary hypoplasia, pulmonary hypertension and presence of other associated anomalies [1]. Late presentation of CDH is rare and constitutes about 5–25 %. About 80–90 % of diaphragmatic hernias are left-sided [3]. Delayed presentation of CDH in adults can cause diagnostic dilemma. They can rarely present with intestinal obstruction. We present this case for its rare combination of a retrosternal Morgagni defect and a right-sided hernia presenting in an adult.

Case Presentation

A 42-year-old female presented to Surakksha Multispecialty Hospital, in Salem, Tamilnadu, India, with complaints of pain in the upper abdomen and breathlessness on exertion. The pain was a dull aching and localized to the epigastric region. There was no history of trauma to the chest or abdomen. Her pulse rate and blood pressure were normal and she had an oxygen saturation of 93 % on room air. Breath sounds were diminished on the right side of the chest.

An X-ray of the chest revealed presence of bowel loops in the right thoracic cavity with a collapse of the right lung. There was a significant mediastinal shift (Fig. 1). CT scan of the chest and upper abdomen revealed that the right and the left lobe of the liver were separate and there was a gap between them. Through this gap and a defect in the diaphragm, transverse colon, omentum, antropyloric segment of the stomach and first part of the duodenum had herniated into the right hemithorax.

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Fig. 1 Chest X-ray showing multiple *bowel loops* in the right hemithorax—a right diaphragmatic hernia

The patient was taken to the operating room for laparotomy because of the large, long standing hernia and the multiple contents. The right and left lobe of the liver were separate with a thin bridge of tissue connecting both, in the posterior aspect. The contents had herniated through the gap between the lobes of the liver. The defect in the diaphragm was about 6×4 cm in the retrosternal region, just to the right of midline—a Morgagni-type hernia. The transverse colon and omentum were adherent to the edges of the defect. The adhesions were released and the contents reduced into the abdomen. The edges of the defect could be approximated without tension. So, a primary repair of the defect was done using one prolene (Fig. 2). An intercostal drainage (ICD) tube was placed on the right side.

The postoperative period was uneventful. Patient was allowed oral liquids on the first postoperative day (POD). Chest X-ray taken on the fourth postoperative day (POD) showed a good expansion of the right lung. The ICD tube was removed on the fifth POD and the patient was discharged on the sixth POD.

Fig. 2 Primary repair of the defect

Discussion

Congenital diaphragmatic hernias are commonly identified antenatally by ultrasound or in the neonatal period [4]. They can rarely present late, constituting 10–13 % of all CDH cases [2]. It is common in males with a male to female ratio of 1.8:1 [4]. About 96 % of late-presenting CDH are Bochdalek hernia with a posterolateral defect [5]. The other variants are Morgagni hernia (with a retrosternal defect) and the central hernia. Majority of late-presenting CDH are left-sided with an incidence ranging between 73 and 90 % [6].

Gastrointestinal symptoms are more common in left sided hernias whereas respiratory distress predominates in right sided lesions [7]. Abdominal contents including the stomach, bowel loops, omentum, spleen, and liver may herniate into the thorax. The diagnosis of delayed presenting CDH can be difficult. They can present at times with acute obstruction or strangulation. Sometimes patients present with chronic vague symptoms. Surgical repair of late presenting CDHs usually have a favourable outcome as they are not associated with pulmonary hypoplasia or other congenital anomalies.

Diagnosis is established with the help of a chest X-ray which may demonstrate gas or fluid-filled bowel loops in the thorax. At occasions, the chest X-ray may appear normal or doubtful warranting a CT scan of the chest. These hernias need to be treated even when asymptomatic as they can develop complications like incarceration, intestinal obstruction, and strangulation. Different surgical approaches to correct CDH are transabdominal, transthoracic, laparoscopic, and thoracoscopic. Repair through a thoracotomy is usually comfortable but laparotomy provides an avenue to examine the other hemi-diaphragm, if required. Primary repair by tension-free suturing is recommended with non-absorbable suture material for smaller defects. A mesh repair is required for larger defects [8]. Covered mesh is the prosthesis of choice as adhesions to the mesh is less.

Conclusion

Delayed presentation of CDH is relatively rare and can be difficult to diagnose. A strong clinical suspicion and correct interpretation of radiological imaging are vital. Primary non-tension repair is the treatment of choice and mesh repairs are reserved for large defects. Appropriate treatment is usually associated with good outcome in adults. Prompt surgical repair is mandatory to prevent life threatening complications.

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Compliance with Ethical Standards

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Conflict of Interest The authors declare that they have no competing interests.

Informed Consent Written informed consent was obtained from the patient for publication of this Case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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