Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Pediatrics

Bowel in the Chest: Morgagni Hernia Incidentally Revealed by Chest Radiography in an Infant with Acute Bronchiolitis

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DOI: https://doi.org/10.36347/sjmcr.2026.v14i09.004 | **Received:** 12.07.2026 | **Accepted:** 29.08.2026 | **Published:** 02.09.2026

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Abstract **Case Report**

Morgagni hernia is a rare congenital diaphragmatic defect that may remain clinically silent beyond the neonatal period. We report the case of a 3-month-old infant admitted for acute bronchiolitis, in whom chest auscultation revealed bowel sounds over the precordium. Chest radiography demonstrated intrathoracic colonic loops, leading to the incidental diagnosis of Morgagni hernia. This case highlights the importance of careful clinical examination and chest radiography in identifying unexpected congenital anomalies.

Keywords: Morgagni Hernia, chest Radiography, Bronchiolitis.

INTRODUCTION

Morgagni hernia is a rare congenital diaphragmatic defect that allows abdominal viscera to herniate into the thoracic cavity. Its variable and often nonspecific presentation may delay diagnosis beyond the neonatal period. We report a case of Morgagni hernia incidentally identified on chest radiography in a 3-month-old infant admitted with acute bronchiolitis, highlighting the diagnostic value of careful physical examination and chest imaging.

CASE REPORT

We report the case of a 3-month-and-10-day-old female infant with no significant medical history apart from a full-term birth by cesarean section. She was exclusively breastfed and admitted with a first episode of respiratory distress consistent with bronchiolitis, evolving over two days. Symptoms included cough-induced vomiting, nasal congestion, bilateral wheezing, tachypnea at 62 breaths/min, and intercostal and suprasternal retractions. There was no history of altered bowel habits.

Physical examination revealed bowel sounds over the cardiac auscultation areas, particularly the aortic and tricuspid areas, whereas they were absent over the epigastrium, right hypochondrium, and right lumbar region. Chest radiography demonstrated intrathoracic colonic loops, leading to the diagnosis of a colonic intrathoracic hernia. Doppler echocardiography was strictly normal.

The remainder of the physical examination was unremarkable. Vital signs were as follows: heart rate 130 beats/min, oxygen saturation 95% on room air, and temperature 37.8°C. The bronchiolitis episode had a favorable clinical course, and surgical repair of the hernia was deferred for several weeks.

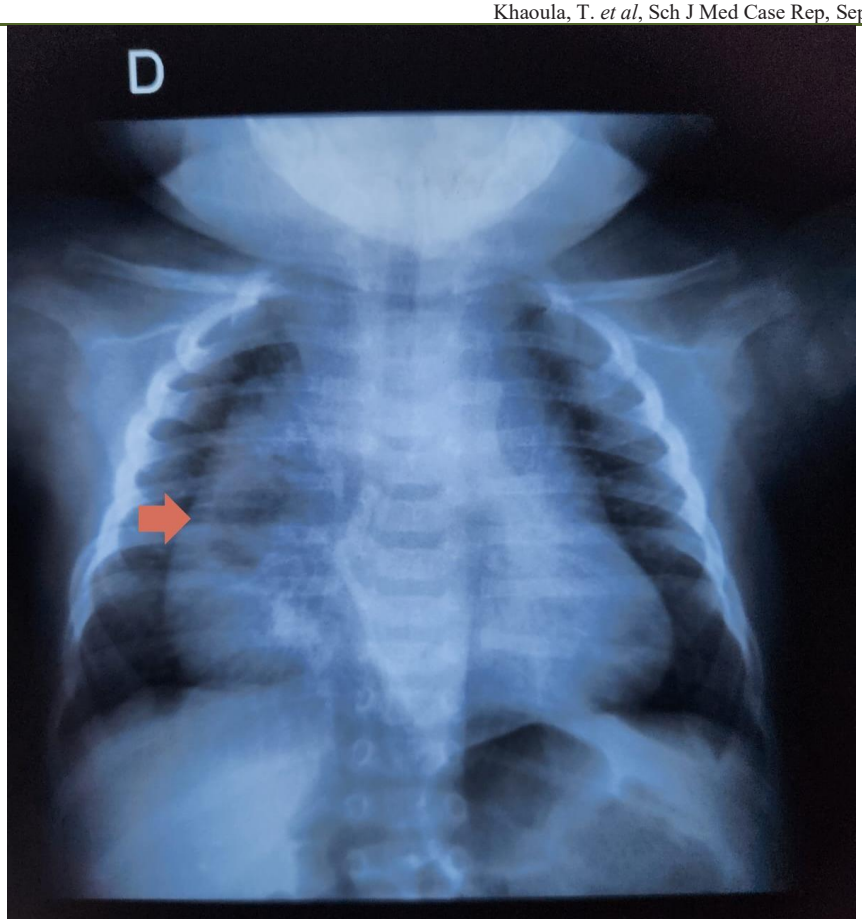

Figure 1: Chest radiograph of a 3-month-old infant showing air-filled bowel loops within the right hemithorax, consistent with intrathoracic herniation of the colon through a Morgagni hernia

DISCUSSION

Morgagni hernia, also known as a retrocostoxiphoid, retrosternal, or anterior diaphragmatic hernia, is a rare form of congenital diaphragmatic hernia. It results from an anterior diaphragmatic defect that allows abdominal viscera to migrate into the thoracic cavity. In children, it accounts for approximately 3% to 5% of congenital diaphragmatic hernias, although higher frequencies have been reported in some series [1,2].

Unlike other forms of congenital diaphragmatic hernia, particularly Bochdalek hernia, Morgagni hernia is often diagnosed after the neonatal period. Its clinical presentation is variable and generally nonspecific. Respiratory manifestations predominate in children, mainly in the form of recurrent lower respiratory tract infections or respiratory distress. Gastrointestinal manifestations, including vomiting and feeding difficulties that may lead to growth failure, may also occur. However, incidental diagnosis in an asymptomatic child remains possible [1,2]. More generally, mild forms of congenital diaphragmatic hernia may be diagnosed late following nonspecific respiratory or gastrointestinal manifestations [3].

Morgagni hernia is most commonly located on the right side, a location reported in approximately 90% of cases. Bilateral forms may occur, whereas exclusively left-sided hernias are less common [1,2]. A hernia sac is usually present. Its contents vary, but the colon and liver are among the organs most frequently identified in pediatric series [1,2].

Diagnosis is primarily based on imaging. Chest radiography is generally the initial examination and may reveal an air-fluid level or an opacity at the cardiophrenic angle, appearing in a retrosternal position on the lateral view [1,2]. When the colon constitutes the hernia contents, a contrast enema may confirm the diagnosis by demonstrating its intrathoracic position [1,2]. Ultrasonography may also identify the gastrointestinal or hepatic nature of the hernia contents. Thoracoabdominal computed tomography provides more precise anatomical characterization, particularly when the hernia contains the liver or omentum and the radiographic appearance is atypical [1,2]. More generally, chest radiography also plays a central role in the postnatal confirmation of congenital diaphragmatic hernias [3].

The presence of associated congenital anomalies should be systematically investigated. Intestinal rotation and fixation abnormalities, congenital heart disease, and chromosomal abnormalities have all been reported. An association with trisomy 21 has been particularly described in pediatric series of Morgagni

hernia [1,2]. This frequency of associated malformations reflects the broader context of congenital diaphragmatic hernias, in which assessment for associated anomalies is an integral part of patient management [3].

The treatment of Morgagni hernia is surgical, including in minimally symptomatic or asymptomatic patients, because of the potential risk of complications such as incarceration, volvulus, or gastrointestinal strangulation. Surgery may also improve recurrent respiratory manifestations [1,2]. The abdominal approach is preferred because it allows reduction of the herniated viscera, exploration of the abdominal cavity, investigation of associated abnormalities—particularly intestinal malrotation—and identification of a possible bilateral hernia [1,2]. The defect is generally closed by direct suture, although prosthetic mesh may be required for larger diaphragmatic defects [3].

The laparoscopic approach is an alternative to laparotomy and allows repair of the defect while providing the usual advantages of minimally invasive surgery, including fewer wound-related complications, reduced postoperative pain, and a potentially shorter hospital stay [2]. However, resection of the hernia sac should be performed cautiously because of its close relationship with the pleura and pericardium [1,2].

The prognosis of Morgagni hernia in children is generally favorable following surgical treatment. Complications and morbidity appear to depend more on associated malformations and the chronic respiratory or gastrointestinal consequences than on the diaphragmatic defect itself [1,2]. Nevertheless, recurrence remains possible, as reported in the Al-Arfaj series [1]. More broadly, the follow-up of children with congenital diaphragmatic hernia should include monitoring for medium- and long-term respiratory, gastrointestinal, nutritional, and surgical complications [3].

Thus, despite its rarity and sometimes nonspecific clinical presentation, Morgagni hernia should be considered in children presenting with recurrent respiratory manifestations or a retrosternal radiographic abnormality. Early recognition followed by surgical management generally results in a favorable outcome [1,2].

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