A 25-year-old woman with a history of chronic bronchitis since age 12 and 3–4 previous episodes of pneumonia presented to the emergency room with cough and shortness of breath. A CT scan of her chest revealed findings consistent with Morgagni hernia with herniation of omental fat, causing near complete compressive atelectasis of the right middle lobe. The diaphragmatic defect was successfully treated with a laparoscopic repair. The patient was discharged home on the first postoperative day after tolerating regular diet.

Keywords: diaphragmatic hernia; thoracic radiography; thoracic cavity

Materials and Methods

Following the induction of general anesthesia, the patient was placed in the lithotomy position, and four laparoscopic ports were created. The abdominal cavity was filled with CO2. The defect was visualized with omentum herniating through it (Fig. 3a). This was gently brought back into the abdominal cavity. The hernia sac was excised. The 8 cm defect was closed using prosthetic mesh and multiple interrupted 2-0 non-absorbable sutures (Fig. 3b). The pleural cavity was not entered during the procedure. The ports were closed. The patient was extubated prior to leaving the operating room. She tolerated the procedure well and was discharged home on postoperative day 1 after tolerating a regular diet.

Discussion

Morgagni hernia is a rare form of diaphragmatic hernia characterized by a defect between the septum transversum and the costal margin of the diaphragm, most frequently occurring on the right. It accounts for less than 2% of all diaphragmatic hernias. Although most frequently asymptomatic, it can be a diagnostic dilemma as a result of the varied nature of the presenting symptoms including nausea, vomiting, abdominal pain, chest pain, cough or dyspnea. Herniated organs can include stomach, small bowel, large bowel, liver, and omentum.
Fig. 1  Diagnostic chest x-ray (lateral and PA views) before operation.

Fig. 2  Diagnostic CT scan before operation.

Fig. 3

a: Visible Morgagni hernia.
b: Defect sealed with prosthetic mesh after omentum removal.
High index of suspicion is necessary to establish the diagnosis, which is typically confirmed with a CT scan of the chest.\textsuperscript{5) We describe a case in which Morgagni hernia presented in a young woman as a right middle lobe compression. The chronic history of bronchitis and recurrent pneumonia suggest that the diagnosis was likely delayed. It is possible that the recent worsening of the patient’s symptoms was related to the concurrent 90-lb weight gain, which likely increased intra-abdominal pressure resulting in a further increase of the hernia contents. The diaphragmatic defect was successfully treated with a laparoscopic repair.

\textbf{Conclusion}

The patient was seen three weeks postoperatively. She was free of any respiratory complaints. Her wheezing and chronic bronchitis symptoms had completely resolved. Chest x-ray demonstrated complete resolution of the pre-operative abnormality (\textbf{Fig. 4}). Initially described in 1992, the minimally invasive laparoscopic approach has been established as a safe and effective alternative to transabdominal or thoracic surgery in the setting of Morgagni hernia.\textsuperscript{1)}

\textbf{References}