INTRODUCTION

Morgagni’s hernia is a congenital herniation of abdominal viscera into the thoracic cavity through a retrosternal diaphragmatic defect. CASE PRESENTATION: Asymptomatic 44-year-old woman underwent a master health checkup. On routine chest radiography, a mass lesion was found in the thorax adjacent to the heart on the right side. CT chest showed a poorly marginated para-cardiac lesion predominantly consisting of fat with dense linear septations with mass in contact with the anterior chest wall, lung margins are clearly demarcated. The probable diagnosis was Paracardiac lipoma or Thymolipoma. The results of CT guided biopsy were inconclusive. Based on investigations, the probable diagnosis being thymolipoma, a median sternotomy approach was planned. By median sternotomy approach, a well encapsulated mass was found in the anterior mediastinum which was found to reduce on handling. The sac was opened and the content was omentum. The omentum was reduced. The diaphragmatic orifice was visualised and the defect was on the left side. Repair was done with Prolene mesh and fixed with 1 prolene sutures.

CONCLUSION

This is a case of adult Morgagni hernia presented as a right sided mediastinal mass which needs a high index of suspicion when assessing patients with asymptomatic mediastinal mass. A missed diagnosis can lead to life-threatening complications such as obstruction or strangulation which warrants early surgical intervention.

Keyword: Morgagni Hernia, mediastinal mass, diaphragm

INTRODUCTION

Morgagni hernias are usually asymptomatic and often found incidentally on chest radiography. Symptoms of these hernias are attributable to the herniated viscera. This is a case of asymptomatic Morgagni hernia, which had been diagnosed as thymolipoma since the presentation was more in favour of mediastinal mass.
CASE PRESENTATION
A 44-year-old woman without symptoms underwent master health checkup and on routine chest radiography, which revealed mass lesion in the thorax adjacent to the heart on the right side. Contrast-enhanced, multislice computed tomography of chest showed poorly margined para-cardiac lesion predominantly consisting of fat with dense linear septations, the mass is in contact with the anterior chest wall, Lung margins are clearly demarcated and the probable diagnosis were in favour of Paracardiaclipoma/Thymolipoma. The result of CT guided biopsy was inconclusive. Based on investigations as the most probable diagnosis was made as thymolipoma, median sternotomy approach was planned.

the thoracic cavity was opened by median sternotomy. A well encapsulated mass was found in the anterior mediastinum. The mass was found to reduce on handling. The sac was opened. The content was only omentum without bowel. The sac was reduced. The diaphragmatic orifice was visualised and the defect was on the left side. Repair was done with Prolenemesh and fixed with 1 prolene sutures.

DISCUSSION
Diaphragmatic hernias of Morgagni were first described in 1769 as anatomical defects in the anterior diaphragm that allow herniation of abdominal viscera into the thorax. They are the rarest of congenital diaphragmatic hernias, making up 2–3% of cases. They usually present in childhood with respiratory symptomatology. Incidental findings of this condition in adults are less common with only 81 asymptomatic cases reported in a recent review. Symptomatic adult cases of Morgagni hernias are even rarer with only 12 cases described. Very few present with chest symptoms, the majority describing abdominal pain due to strangulation of the viscera. Of the symptomatic adult cases, the herniated viscera involve omentum, small bowel or stomach.

ANATOMY AND PATHOLOGY OF DIAPHRAGMATIC HERNIA
The development of the pars muscularis of the diaphragm occurs after the fusion of the septum transversum with the pleuroperitoneal folds and the dorsal mesentery. The muscle fibres proceeding from the third, fourth, and fifth cervical myotomes develop between the folds of the primitive pleura and the peritoneum and complete the diaphragm at the ninth week of fetal life. Three elements are
differentiated in this muscularization—the pars lumbaris, costalis, and sternalis. The costalis is formed by the fibres spreading out from the tendinous centre to the last six costal arches. The pars sternalis is formed from the fibres going to the inner surface of the xiphoid process, a few of them spreading to the posterior aspect of the rectus abdominis sheath. The failure of fusion between the fibrotendinous elements of the pars sternalis and those arising from the seven costochondral arches leaves a muscle-free area, the costosternale trigone, known as Larrey’s space or Morgagni’s foramen. Normally this space is filled with fat and covered with a layer of pleura above and peritoneum below. In the Morgagni hernia the peritoneum and the abdominal contents pass upwards through this space into the thoracic cavity. Diaphragmatic hernia can be either congenital or acquired. Most of them are of mixed variety. There is an embryonal failure of muscularisation which will produce weak area. Acquired factors such as severe effort and obesity, will produce an increased intra-abdominal pressure and promote the development of hernia sac. The defect is usually lateral to the xiphoid process especially on the right side. Often the hernial sac contains only the colon, or the colon with either omentum, stomach or small intestine. Sometimes it is filled only with the omentum as in this case which led to the difficulty in the diagnosis. The liver may occasionally protrude into the sac. Although percussion and auscultation of the thorax may reveal areas of tympanyism and splashing sounds, the diagnosis is confirmed by radiological studies. Most hernias of Morgagni are diagnosed late because patients can be asymptomatic or present with vague gastrointestinal and respiratory symptoms and signs. Ultrasonography has been shown to be useful in assessing diaphragmatic hernias but CT is the most sensitive as it gives excellent anatomical detail on the contents of the hernia and its complications such as strangulation. As in this above said case, in the hernia containing omentum only, there is opacity without evidence of bowel herniation which makes the diagnosis more difficult being often an occasional finding at thoracotomy. In these cases the differential diagnosis includes pleuropericardial cyst, lipoma, other intrathoracic tumors, partial evagination of the diaphragm, and those lung lesions which produce radiological shadows in the middle lobe area. Our case is unusual as the defect was on the left side but the mass presented on right side with omentum as content and without bowel made preoperative diagnosis difficult and more in favour of thymolipoma. Generally treatment is surgical. Most authors favour the abdominal route for exploration. But when it is inconclusive as in our case the route preferred is thoracotomy. Sternotomy has been done in this case because the preoperative CT scan findings were more suggestive of thymolipoma.

CONCLUSION
This is a rare case of adult Morgagni hernia with an unusual presentation as a right sided mediastinal mass with omentum as its content. It highlights the difficulties in diagnosis, prompting a need for a high index of suspicion when assessing patients with asymptomatic mediastinal mass. A missed diagnosis can lead to life-threatening complications such as obstruction or strangulation which warrants early surgical intervention.
References:

