Case Report

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Hiatal Hernia: A Case Report

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Abstract

The gastro esophageal junction is the point at which the distal end of the esophagus meets the cardiac part of the stomach. The anatomy of the gastro esophageal junction is important as it lies in the proximity of the diaphragm and is present at the junction of the thorax and abdomen. Hiatal hernia is a clinical condition in which there is protrusion of the gastro esophageal junction into the thorax through the diaphragm. Obesity, coughing, straining during bowel movements, smoking are the risk factors, which may lead to hiatal hernia. The study and diagnosis of hiatal hernia is important as most of these hernias are asymptomatic and in severe conditions it can be life threatening.

Keywords: Hiatal Hernia; Esophageal Hiatus; Fundus of Stomach.

Introduction

The stomach is the widest part of the alimentary tract and lies between the esophagus and the duodenum. It is situated in the upper abdomen extending from the left upper quadrant downwards, forwards and to the right. It lies in the left hypochondriac, epigastric and umbilical areas. It occupies a recess beneath the diaphragm and anterior abdom inal wall that is bounded by upper abdominal viscera on either side [1].

The diaphragm is a muscular partition present between the thoracic and the abdominal cavity. It consists of right and left domes (cupolae) and a central tendinous part. It is a chief muscle of respiration. Contraction of the diaphragm increases the intra abdominal pressure and assists in expulsive actions like sneezing, coughing, laughing, urinating, defecating and expelling the fetus from the uterus. Abdominal organs usually the stomach may herniate into the thorax through the diaphragm. Hiatal hernia is a condition in which the stomach bulges into the thoracic cavity through the opening in the diaphragm called esophageal hiatus. Concomitant laxity of the phreno-esophageal membrane allows the gastro-esophageal junction to slide into the thorax; this is termed as sliding or type I, hiatus hernia. Sliding hernias are usually acquired. They commonly occur in the fifth decade of life and are found in more than 50% of the patients with gastro-esophageal reflux, a condition that induces tonic contraction of the longitudinal esophageal muscle, which further exacerbates the hiatus hernia. When the stomach herniates into the thorax alongside the esophagus, it is termed as Para esophageal or type II, hiatus hernia [2].

Early diagnosis of hiatus hernia is important as a delay can aggravate the situation and result in morbidity and impaired quality of life. Hiatus hernia is most commonly diagnosed by endoscopy. The hernia is visible as a bulge at the gastro-esophageal junction. Barium swallow test, high-resolution manometry, pH test and gastric emptying tests are the other diagnostic tools.

Material and Method

During routine cadaveric dissection at the Apollo Institute of Medical Sciences, Hyderabad a cadaver with hiatal hernia was observed. The dissection of

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the thorax was done by incising the thoracic wall along the linea alba extending from the suprasternal notch to xiphoid process. The superficial fascia and fat was cleared. The rectus sheath, rectus abdominis muscle was reflected laterally to see the intercostal muscles and ribs. The ribs were cut at the lateral ends and the sternum was cut at the junction of first rib and xiphisternum, to expose the lungs and heart. Each lung was reflected laterally and the root of each lung along with the pulmonary ligament was cut. Once the lungs were removed, the bulging of the stomach into the thorax was observed. The tissue was collected and sent for histopathological examination. It was confirmed to be a case of hiatal hernia and the abnormality was noted.

Result

Among the 8 cadavers, one female cadaver about 86 years old presented hiatal hernia with the stomach bulging into the thorax through the diaphragm. The condition was carefully studied and photographs were taken.

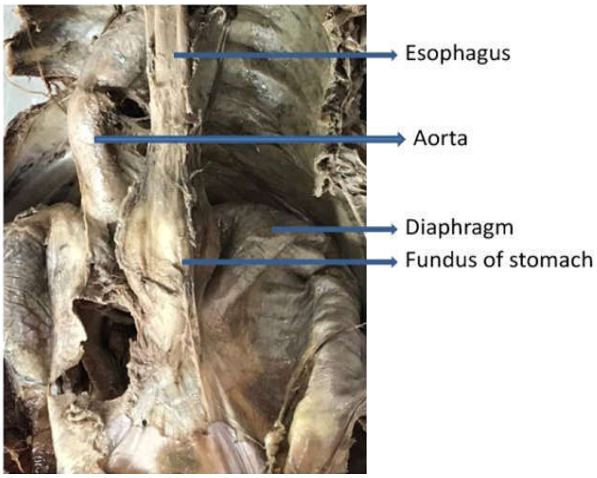

Fig. 1: Esophagus after removal of lungs

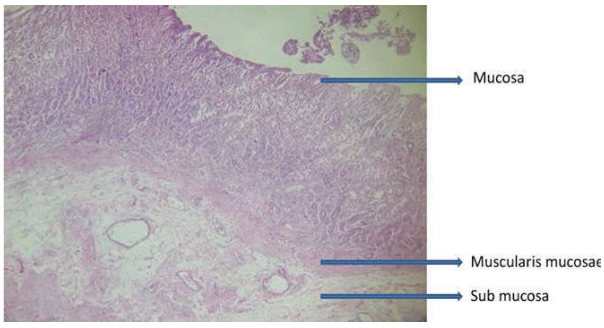

Fig. 2: Histological features

Discussion

Hiatus hernia is one of the most common disorders in people above 50 years of age. There are multiple reports and journals describing the incidence, early diagnosis and treatment for hiatal hernia.

In 2016, Supakanya Wongrakpanich; Hilit Hassidim; Wikrom Chaiwatcharayut; Wuttiporn Manatsathit, presented a case of an 88-year-old female with giant hiatal hernia. Computerized tomography of the thorax showed a large hiatal hernia containing stomach, proximal duodenum, colon and pancreas [3].

Gajendra Vikram Singh and others reported a case of a 6-year-old boy with hiatal hernia. Barium swallow study showed herniation of the gastro-esophageal junction and the entire stomach into the thorax [4].

In the year 2016, Shruti Patel and others illustrated a case of a 65-year-old Caucasian male. Computed tomography showed a large hiatal hernia containing stomach, duodenum and most of the body and tail of the pancreas [5].

Eesha R. Sachdeva and others presented a case of an 85-year-old woman with a history of hypertension, hyperlipidemia and recently diagnosed GERD. The CT scan revealed her entire stomach herniating into the thoracic cavity, compressing the heart and lungs [6].

Bilal Mirza presented a case of a 25-day-old neonate suffering from hiatal hernia. The stomach was absent in the peritoneal cavity and was entirely pushed into the thorax through the hiatal opening [7].

Medina Andrade Luis Angel and others illustrated a case of an 80-year-old woman with hiatal hernia of 9 cm and the left hemi thorax occupied by stomach, colon and spleen [8].

Ali Lankarani, Radheshyam Agarwal and Manish Dhawan reported the case of an 83-year-old with hiatal hernia. CT scan showed that 2/3 of the stomach herniated into the chest in a retro cardiac fashion [9].

Conclusion

Incidence of hiatal hernias increases with age; approximately 60% of individuals aged 50 or older have a hiatal hernia [15]. Of these, 9% are symptomatic, depending on the competence of the lower esophageal sphincter (LES). 95% of these are "sliding" hiatal hernias, in which the LES protrudes above the

diaphragm along with the stomach, and only 5% are the "rolling" type (paraesophageal), in which the LES remains stationary, but the stomach protrudes above the diaphragm. It causes symptoms as severe pain in the chest or abdomen, become nauseated, are vomiting or are unable to have a bowel movement or pass wind, you may have a strangulated hernia or an obstruction, which are medical emergencies.

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