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Asymptomatic pancreatic body herniation complicated with periauricular squamous cell carcinoma

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ABSTRACT

Hiatus hernia is defined as herniation of the abdominal elements through the esophageal hiatus into the mediastinum. Type IV hiatal herniation is the rarest of all paraoesaphagial hernias. Herniation of pancreas is extremely rare. A 63-year-old male was admitted to the department of oncology with a periauricular squamous cell carcinoma (SCC). Abdominal CT was performed for organ metastasis. No metastasis was found, but hiatal herniation of the stomach along with the body of the pancreas into the thorax was observed. To our knowledge, this is the first case of herniated pancreatic body complicated with a carcinoma in the literature.

1. Introduction

A hiatal hernia is defined as herniation of abdominal elements through the esophageal hiatus into the mediastinum through a diaphragmatic defect. It is considered that the esophageal hiatus can widen due to repeated episodes of increased intra-abdominal pressure or embryological defects.

A type I or sliding hernia involves herniation of the gastro-esophageal junction (GOJ), which is usually displaced more than 2 cm above the esophageal hiatus into the thorax through the diaphragmatic hiatus. Type I hernias represent 95% of all hiatal hernia cases [1]. For the esophageal hiatus, the upper width limit is 1.5 cm. The treatment indication for type I hernias depends on symptom severity and/or esophageal damage with medical therapy.Type II, III, and IV hernias are also called para-esophageal hernias, and they represent 5% of all hiatal hernia cases. A para-esophageal hernia has a herniation sac with a peritoneal layer. Type II para-esophageal hernia is characterized by gastric fundus herniation, and the position of the GOJ is normal (para-esophageal hernia). A type III hernia (most common giant hiatal hernia) shows both GOJ and gastric fundus herniation (mixed sliding and para-esophageal hernia).In type IV hernia, the stomach is herniated with other abdominal organs, such as the colon, spleen, small bowel, and pancreas. A type IV hernia is the rarest type of para-esophageal hernias. The colon and splenic flexure are usually herniated with the stomach. The small bowel and omentum may also herniate with the stomach. However, herniation of the pancreas is extremely rare, as the pancreas is a well-fixed organ. There are few reported cases about herniation of the body of the pancreas when the head and tail remain in normal anatomical cavities [2].

Here, we present a case of a herniated pancreatic head together with stomach through a large diaphragmatic defect complicated with a squamous cell carcinoma. This is a type IV para-oesophageal hernia, and we suggest that anomalous attachment of the diaphragm to the sternum and adjacent ribs during gestation is the etiologic factor. Incidentally, asymptomatic pancreatic herniation is complicated with a carcinoma.

2. Case report

A 63-year-old man was admitted to the department of oncology with a periauricular mass. He had a history of arterial hypertension and used kaptopril 25 mg for hypertension. He was an ex-smoker. He had a history of smoking 10 cigarettes a day for 25 years; however, he quit smoking 10 years ago. He did not have a surgical history or trauma. No significant abnormality was detected on routine laboratory tests or physical examinations, except for a periauricular mass. Punch biopsy was performed for the periauricular mass. Cytological atypia with hyperchromatism, enlarged and irregularly contoured nuclei, and increased numbers of nucleoli and irregular mitotic figures were observed on pathological assessment, and squamous cell carcinoma (SCC) was diagnosed.

SCC in the neck region can metastasize to lymph nodes, and lung metastasis is common. Thus, the oncologist requested for neck magnetic resonance imaging (MRI) with contrast and thoracoabdominal computed tomography (CT) with oral and intravenous contrast. (Magnetom Skyra, 3T, Siemens, Munich, Germany). For neck MRI, T1, T2, T1FS, T2FS (pre-postcontrast), and diffusion-weighted images were obtained (Magnetom, Skyra). The neck MRI images did not show pathological

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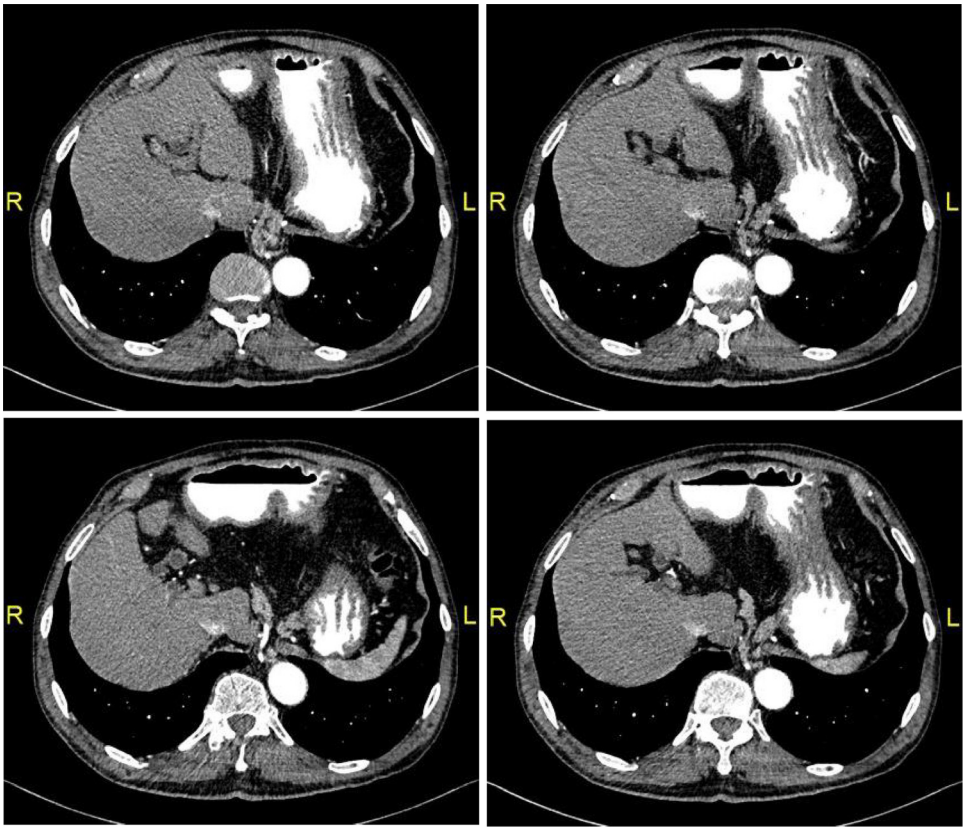

Fig. 1. Axial computed tomography images of the abdomen in the arterial phase with oral and intravenous contrast media. The pancreatic body is located above the diaphragma in the mediastinum.

lymph nodes or other pathological findings. Abdominal triphasic CT with oral contrast media was performed (Somatom Definition Flash, Siemens). Precontrast, arterial, portal, and venous phase images (slice thickness of 2 mm) were obtained. No metastasis was noted in the lungs. Moreover, no metastasis was found in the abdomen. Abdominal CT showed a defect of the diaphragm measuring 72 mm. The esophagogastric junction, cardia, and fundus of the stomach were located above the diaphragma in the mediastinum. A hernia measuring 65 × 49 × 43 mm was noted, and mesenteric fat and the body of the pancreas were in the hernia sac located in the mediastinum (Figs. 1 and 2). The size and density of the pancreas were normal and the peripancreatic fat was non-edematous.

The patient was suggested to undergo surgical treatment for the hiatal hernia however, he refused treatment. Laparoscopic surgery was offered, but he did not want to undergo abdominal surgery. He only underwent excision of the SCC. On SCC surgery, the surgical margins were negative. Keratins were not noted in the tumor cells, and the tumor thickness was 1.5 mm. For the para-esophageal hernia, clinical observation once in 6 months was suggested. During follow-up for 12 months, he did not have any complaints about the abdomen. Furthermore, he did not have any epigastric symptom, retrosternal pain, dysphagia, nausea, vomiting, or cough.

Written informed consent was obtained from the patient's family for the publication of this report.

3. Discussion

Cutaneous SCC is a malignant neoplasm of the epidermis. Keratinocytes derived from the epidermis formed the present tumor. Tumor cells may traverse the basement membrane of the epidermis and invade fat, cartilage, muscle, and bone locally [3]. The tumor may also metastasize to regional lymph nodes and to distant sites. Our patient underwent neck MRI for assessment of regional metastasis and abdominal CT for assessment of distant metastasis. No metastasis was found. We believe that type IV hernia evaluated by CT was an incidental finding.

Surgical repair is recommended for para-esophageal hiatal hernias due to the life-threatening complications, such as bleeding, infarction, and perforation [4]. However, emergency repair was shown to have a high mortality rate. Six of 21 patients with a para-esophageal hernia, who were treated medically because of minimal symptoms, died due to complications, including strangulation, perforation, sanguinating hemorrhage, and acute dilatation of the herniated intrathoracic stomach, and these complications mainly occurred without warning [4].Recent studies have suggested that catastrophic complications may be somewhat less common. In one a study, 23 patients were followed for a median of 78 months, and only four patients showed clinical worsening during follow-up. There was a single mortality case secondary to aspiration during barium swallowing for detecting clinical symptoms [4]. Although emergency repairs were associated with a median hospital stay of 9 days among those undergoing elective repair, there were only three cases of gastric strangulation at 735 patient-years of follow-up [4].Elective repair has a lower mortality rate than that of surgery on an emergency basis. Thus, patients with para-esophageal hiatal hernias are generally counseled to undergo elective repair, especially if they are symptomatic. Watchful waiting in asymptomatic patients is also acceptable [4].The surgical approach for repairing a para-esophageal hiatal hernia may be either transabdominal or transthoracic. Transabdominal repair can be performed as either a laparoscopic or an open procedure.

A para-esophageal hernia of the pancreas is a rare condition, but there have been some reported cases, and most of the cases presented with acute pancreatitis [5] or symptomatic conditions. Asymptomatic herniation of the pancreas is very rare, and only few cases have been

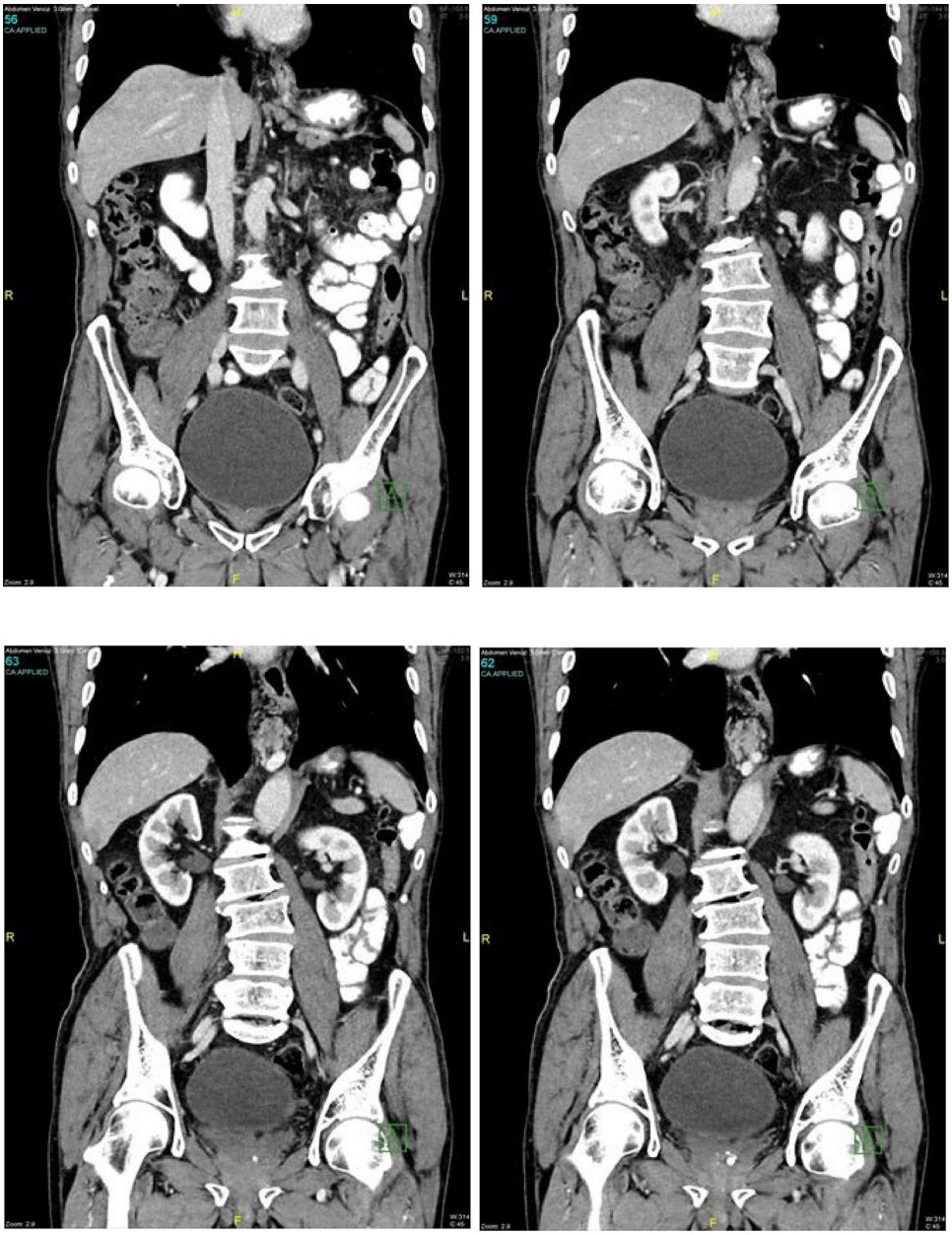

Fig. 2. Coronal computed tomography images of the abdomen with oral and intravenous contrast media. The esophagogastric junction, body of the pancreas,and mesenteric fat tissue are located above the diaphragma in the mediastinum. A large diaphragmatic defect is seen.

reported [6].We believe that surgical repair should be indicated even in symptom-free patients similar to our patient, as the potential complications are life threatening. Moreover,a hiatal hernia, in combination with other reflux conditions and symptoms, is strongly associated with the risk of esophageal adenocarcinoma.

In conclusion, we presented a rare case of pancreatic herniation incidentally combined with SCC. Para-esophageal hernias involving the pancreas usually present with pancreatitis. We recommend laparoscopic surgical treatment as the first choice for symptomatic and asymptomatic para-esophageal hernias involving

Conflicts of ınterest

There are no conflict of interest.

References

[1] M.H. Seelig, R.A. Hinder, P.J. Klingler, N.R. Floch, S.A. Branton, S.L. Smith, Paraesophageal herniation as a complication following laparoscopic antireflux surgery, Gastrointest. Surg. 3 (1999) 95.
[2] P. Kumar, M. Turp, S. Fellows, J. Ellis, Pancreatic herniation: a rare cause of acute pancreatitis? BMJ Case Rep. (2013), http://dx.doi.org/10.1136/bcr-2013-201979.
[3] H. Breuninger, B. Black, G. Rassner, Microstaging of squamous cell carsinoma, Am. J. Clin. Pathol. 94 (2001) 624–627.
[4] Charles Brunicardi (Ed.), Schwarts'z Principles of Suregery, 19th ed., The McGraw-Hill Companies Inc, 2018p. 844.
[5] N.J. Kafka, I.M. Leitman, J. Tromba, Acute pancreatitis secondary to incarcerated paraesophageal hernia, Surgery 115 (1994) 653–655.
[6] A.H. Wu, C.C. Tseng, L. Bernstein, Hiatal hernia, reflux symptoms, body size, and risk of esophageal and gastric adenocarcinoma, Cancer 98 (2003) 940–948.