



## Case report

## Large hiatal hernia with pancreatic body herniation: Case-report

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## ABSTRACT

**Introduction:** A hiatal hernia can be classified as one of four types according to the position of the gastroesophageal (GE) junction and the extent of herniated stomach. Type IV paraesophageal hiatal hernia (PEHH) is characterized by a large defect in the diaphragmatic hiatus that allows other organs, besides stomach, such as the colon, pancreas, spleen, or small intestine to herniate into the thorax. Herniation of the pancreas through a gastroesophageal hiatus is a rare condition, and only a few cases have been reported in the literature.

**Case report:** We present a case of an asymptomatic patient with paraesophageal herniation along with the body and tail of the pancreas.

**Conclusion:** However, surgery is optimal choice for symptomatic patients, it is important for surgeons to consider the risks of different approaches and choose the best intervention.

## 1. Introduction

Hiatal Hernia (HH) was first described by Ambroise Pare in the 15th century as a protrusion of the stomach into the thorax through an opening in the diaphragm [1]. HH is classified into 4 types based on the position of the gastroesophageal (GE) junction and the extent of herniated stomach [2]. The most common type of HH is type I with the highest incidence rate (more than 95% of all cases), which is also known as sliding hernias [3]. This type of HH is associated with migration of GE junction into the mediastinum because of laxity of the phrenoesophageal ligament.

Furthermore, increasing abdominal pressure can have adverse effect on worsening this situation. Types II – IV account as a group of paraesophageal hernias (PEHH) and are considered as the least common types in this classification (3.5–5%) [4]. Type II occurs when the gastric fundus herniates through the hiatus alongside a normally positioned GE junction. Type III is a combination of type I and II, which is along with displacing GE junction and stomach fundus above the diaphragm [5]. Type IV- PEHH occurs when stomach herniates into the mediastinum through a large defect in diaphragmatic hiatus with upper abdominal organs such as colon, small intestine, spleen and pancreas. Patients with this type of HH often present with similar symptoms as PEHH patients [6] and finding an asymptomatic patient is not a common condition. We describe a patient with pancreatic body and tail herniation (Type IV) without any clinical symptoms.

## 2. Case report

The patient was a 61-year-old female with a past medical history of rectum cancer stage IIB and no family history of cancer and HH. Two years earlier, the low anterior resection was done for her, which removed parts of the rectum containing tumor and a margin of normal tissue, along with nearby lymph nodes. Then patient received chemotherapy after the surgery for a period of 6 months. Since passing the treatment course, she reached a stable condition.

In December 2016, she referred to the hospital for following up her disease. Thus, a chest and abdominopelvic computed tomography (CT-GE Brightspeed Elite, 16 slices) contrast-enhanced scan was performed and a radiologist reported the images. The imaging findings incidentally showed an intrathoracic location of stomach along with peritoneal fat and great proportion body and tail of pancreas (Figs. 1 and 2). The patient otherwise had no signs of gastric volvulus, her physical examination was normal and she was symptom free at the 6-months follow-up evaluation. The patient did not receive any kind of treatment or intervention after diagnosis of pancreatic herniation.

## 3. Discussion

In type IV of PEHH, pancreas herniation is considered as the rarest condition (5–7% of all HH) which is reported in a few cases. Head [7], body [8,9], tail [10] or complete [11] herniation of pancreas occurred in those patients that most of them were symptomatic. Among the symptomatic patients, mechanical obstruction or gastroesophageal

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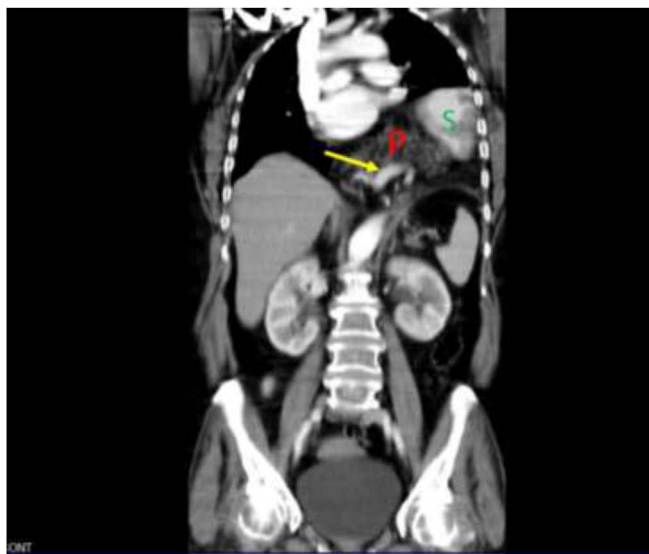


Fig. 1. Contrast-enhanced CT (oral and intravenous), coronal reconstruction, showing the stomach, pancreatic tail, body and splenic vein ascending to the thoracic cavity. S- Stomach; P- pancreatic tail; yellow arrow- splenic vein.

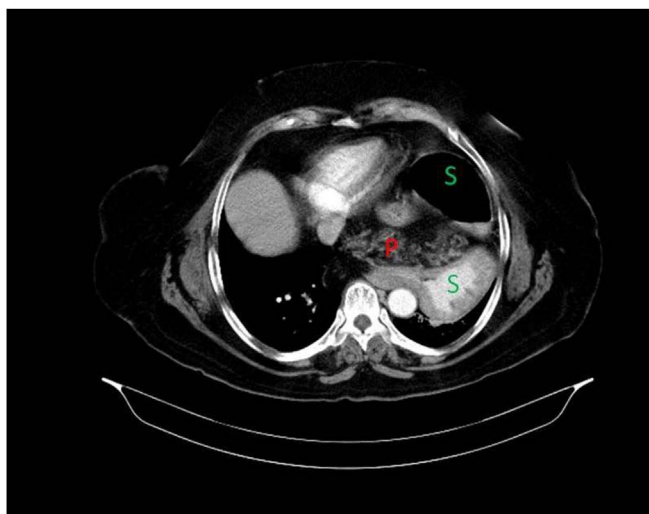


Fig. 2. Contrast-enhanced CT (oral and intravenous), axial sections, showing the stomach, pancreatic tail, and body ascending to the thoracic cavity. S- stomach; P- pancreatic tail.

reflux can cause dysphagia, postprandial fullness, epigastric pain, vomiting or dyspnea. Dysphagia and postprandial discomfort are the most common presentations that occur in more than 50% of cases [12]. Our case was an asymptomatic patient that diagnosed with type IV of PEHH on the basis of herniation the partial body and tail of the pancreas without spleen herniation. In the case of asymptomatic presentation, diagnosis of hiatal hernia could be a challenging issue which needs meticulous considerations.

In this type of HH, the necessity of open or laparoscopic surgery is debated extensively specially in asymptomatic cases due to the potential risk of incarceration and strangulation [13]. However, surgery is considered as the optimal choice for symptomatic patients. Among various therapeutic approaches, laparotomy plays an important role in emergency situation with the lowest rate of recurrence (2.5%–13%) [14]. In general, it is important for surgeons to consider the risks of different approaches and choose the best intervention with the least complications.

This case report has been written based on SCARE criteria [15].

#### 4. Conclusion

Pancreas involvement as part of paraesophageal hernia is considered as an uncommon situation, particularly in the case of symptom free patients. Routine elective repair may not be indicated for this group of patients and consideration of their age and comorbidities should be included.

#### Ethical approval

The Ethical Approval was given by the Mazandaran university of Medical Sciences, deputy of research and technology. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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#### Author contribution

Dr.Elhamsadat Banimostafavi: data collection, imaging report.

Maryam Tayebi: writing the paper.

#### Conflicts of interest

Banimostafavi declares that she has no conflict of interest.

Tayebi declares that she has no conflict of interest.

#### Guarantor

Dr. Elhamsadat Banimostafavi.

#### Research registration unique identifying number (UIN)

It is a case-report study.

#### Trial registry number – ISRCTN

No RCT requires.

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