

Incidental Finding of Gastric Heterotopic Pancreas during Laparoscopic Sleeve Gastrectomy: A Case Report

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Abstract

Background: Heterotopic Pancreas (HP), also known as ectopic, accessory, or aberrant pancreas is by definition the presence of pancreatic tissue outside its normal anatomical location with no direct blood supply connection with the main pancreas. In the literature, there is increase in the incidence of pathological findings during laparoscopic sleeve gastrectomy. Here we present a case of HP incidentally found in the gastric antrum during laparoscopic sleeve gastrectomy.

Case presentation: 52-year-old female patient with BMI 46.49 kg/m² presented to undergo laparoscopic sleeve gastrectomy. After the dissection of the greater curvature of the stomach from the omentum, a lesion at the greater curvature of the stomach on the antral-body junction was identified. Intra-operative gastroscopy was done that showed a benign looking polyploid lesion of the gastric wall with a probable overlying submucosal lesion. No intraluminal mass was identified so a decision to proceed with the surgery was taken and the transected stomach containing the suspected lesion was sent to pathology. The final pathology showed a type 1 2.2 cm heterotopic pancreas involving the submucosa and deep into the muscle.

Discussion and conclusion: HP is usually an asymptomatic pathology found incidentally; however, depending on its size, pathological changes, and anatomical location it can become clinically evident. Even though it is difficult to diagnose HP preoperatively, few radiological characteristics have been identified that can help in the diagnosis. However, the definitive diagnosis of HP is made histologically. In the case of an incidental HP found during surgery, local excision is the preferred treatment since HP is at risk of becoming symptomatic or malignant when radical surgery is considered. In our case, the location and benign appearance of the lesion, in addition to the result on the gastroscopy allowed us to proceed with our intended surgery.

Keywords

Heterotopic pancreas • Laparoscopy • Sleeve gastrectomy • Incidental finding

Background

Heterotopic Pancreas (HP), also known as ectopic, accessory, or aberrant pancreas is by definition the presence of pancreatic tissue outside its normal anatomical location with no direct blood supply connection with the main pancreas [1]. HP is mostly found in the stomach and duodenum (28% each), in the proximal part of the jejunum (16%), and infrequently in the esophagus, ileum, Meckel diverticulum, biliary tree, mesentery, or spleen [1]. Patients with HP are usually asymptomatic and HP is usually discovered incidentally during laparotomy for other causes, endoscopy of the gastrointestinal tract, or at autopsy [2]. Indeed, HP has an incidence of 0.5% during laparotomies and an incidence of 0.6%-14% at autopsy [3]. In the literature, there is increase in the incidence of pathological findings during Laparoscopic Sleeve Gastrectomy (LSG) that include arteriovenous malformations in the small bowel, gastrointestinal stromal tumors, leiomyomas, gastrointestinal stromal tumors in the stomach, adenomas, hemangiomas of the liver [1] and HP should also be included in the differential. Here we present a case of HP incidentally found in the gastric antrum during LSG.

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Case Presentation

This is the case of a 52-year-old female patient with hypertension and hypothyroidism as past medical history and a weight of 122 kg and a height of 1.62 meters resulting in a body mass index of 46.49 kg/m² who presented to undergo bariatric surgery after failing to lose weight by dietary regimens and life style modifications. The patient had morbid obesity so was an excellent candidate for bariatric surgery. After discussing the surgical options with her, she decided on LSG. An informed consent was signed and then she was taken to the operating room. She was put in a modified lithotomy position under general anaesthesia and after scrubbing and draping, pneumoperitoneum was established using a Veress needle at the palmer's point. After entry into the abdomen and identification of the pylorus, dissection of the greater curvature of the stomach from the omentum was started 6 cm from the pylorus reaching the angle of his. Incidentally, a lesion at the greater curvature of the stomach on the antral-body junction was identified. A thorough laparoscopic exploration was done and found no signs of malignancy and a decision for intra-operative gastroscopy were taken for further evaluation and assessment. The gastroscopy was done and it showed no abnormalities in neither the esophagus nor the duodenum but in the stomach an erythematous and mottled mucosa was identified in the antrum-body junction area with erosions and a benign looking polyploid lesion of the gastric wall (Figure 1) with a probable overlying sub mucosal lesion was identified. No intraluminal mass was detected so a decision to continue the surgery was taken. Transection of the stomach was started 6 cm from the pylorus reaching the angle of His and the transected stomach (Figure 2a) containing the suspicious lesion (Figure 2b) was sent to pathology. The patient was kept NPO for the first 24 hours and then was started on clear fluids to be continued for 7 days before the progression to a full liquid diet for another 7 days and then a soft diet for the next 7 days. The patient was discharged on day 2 post-operation and the final pathology of the transected stomach showed a 2.2 cm heterotopic pancreas involving the submucosa and deep into the muscle containing acinar pancreatic tissue, scattered pancreatic ducts, and islets of langerhans with absence of malignancy and negative result of Helicobacter pylori (Figures 1 and 2).

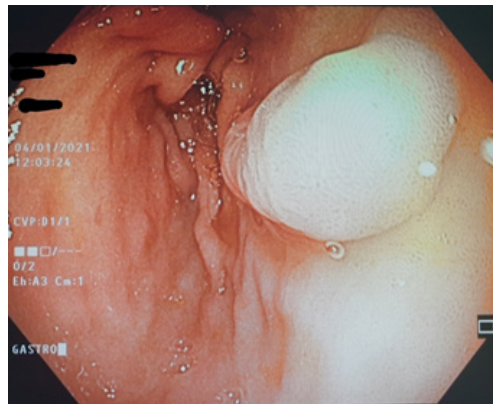


Figure 1. Polypoid lesion at the antral-body junction identified during the intra-operative gastroscopy.



Figure 2. a) The transected stomach. b) The suspected lesion pointed out on the transected stomach.

Discussion

HP is usually an asymptomatic pathology found incidentally; however, depending on its size, pathological changes, and anatomical location it can become clinically evident [4]. When HP becomes symptomatic, about third of patients present with symptoms related to the organ in which the HP resides in [5]. For instance, symptoms include nausea, vomiting, dyspepsia, abdominal fullness, melena, and most commonly epigastric pain [5]. Even though it is difficult to diagnose HP preoperatively, few radiological characteristics have been identified that can help in the diagnosis [6]. For example, HP gastric barium studies present as rounded filling defect with central indentation and contrast enhanced Computed Tomography (CT) can sometimes present nondiagnostic findings such as exophytic bowel wall lesions or mural wall thickening [6]. When present in the stomach as in our case, HP is usually found in the antrum toward the greater curvature [7] as a submucosal lesion mimicking Gastro Intestinal Stromal Tumor (GIST) [8]. Five criteria on CT can be identified that help with good sensitivity and specificity to differentiate between HP and GIST which are an ill-defined border, pre-pyloric antrum or duodenum location, a long diameter/short diameter ratio of greater than 1.4, an endo-luminal growth pattern, and prominent mucosal enhancement [9]. Indeed, when two or more criteria of these are met, the sensitivity and specificity for diagnosing HP approaches 100% and 82.5%, respectively [9]. Nevertheless, the definitive diagnosis of HP is made histologically [10]. The gross appearance of a typical gastric HP at pathology is a firm, round or oval sub-epithelial lesion with the presence of a characteristic central dimpling or umbication which is due to the opening of the duct [2]. Even-though HP is mostly located in the submucosa, some can be found in the muscularis or serosa [11]. According to the Heinrich classification 3 types of HP present based on the histopathological examination with type I, which is the most common, present with complete structures and consists of ducts, acini, and islets of Langerhans cells, type II is composed of ducts and acini, and Type III is composed of ducts only [12]. Therefore, in our case we had a type 1 HP due to the presence of complete structures. In the case of an incidental HP found during surgery, local excision is the preferred treatment since HP is at risk of becoming symptomatic or malignant when radical surgery is considered [6,10,13].

Conclusion

LSG is increasingly being performed so one can expect increase in incidentalomas during this bariatric surgery. HP should always be considered in the differential diagnosis of an incidental gastric lesion found during LSG. In our case, the benign appearance of the lesion, its location on the greater curvature that would allow inclusion of the denoted lesion with appropriate margins along with the transected stomach, and the absence of intraluminal extension of the mass during the intra-operative gastroscopy allowed us to proceed with our intended surgery.

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Conflict of Interests

The authors report no conflict of interest.

Informed Consent

An informed consent was signed by the patient to authorize access on her medical records and for the completion of this work.

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