中文題目：慢性腹痛合併腹瀉之胃泌素瘤(Zollinger-Ellison Syndrome)案例分享

英文題目：Zollinger-Ellison Syndrome in a Patient with chronic abdominal pain and diarrhea

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Introduction

Zollinger–Ellison syndrome (ZES) is a rare disorder caused by neoplastic production of the gastrin resulting in gastric acid hypersecretion and associated multiple ulcerations in the upper gastrointestinal tract. Early diagnosis of ZES is required for improved chances of survival and preventing disease progression. However, ZES is difficult to diagnose due to its non-specific symptoms (abdominal pain, diarrhea, heartburn, nausea, vomiting and bleeding), which are similar to those of common diseases, such as functional gastrointestinal disorders (FGID) or peptic ulcer diseases. Furthermore, the symptoms of ZES can be masked by the treatment of proton pump inhibitors. Herein, we presented a male patient who suffered from chronic abdominal pain and diarrhea. The symptoms lead to a misdiagnosis of irritable bowel syndrome, which turned out to be a typical case of ZES from a sporadic gastrinoma in pancreatic head. He was finally treated by pancreatoduodenectomy (Whipple procedure) successfully.

Case Presentation

One 50-year-old man had symptoms of progressive weight loss and postprandial nausea/vomiting in recent months. He also had abdominal cramping pain with frequent loose diarrhea for ten years. The symptoms could be relieved by proton pump inhibitor (PPI), but recurred within days after PPI discontinuation. On examination, he had epigastric tenderness with hyperactive bowel sound. Blood tests showed hypokalemia and hypoalbuminemia. Stool analysis and colonoscopy were normal. EGD disclosed reflux esophagitis and multiple ulcerations in gastric antrum and duodenum.

Under suspect of Zollinger-Ellison syndrome (ZES)/gastrinoma. Increased plasma gastrin level (under esmoprazole treatment) to 761 pg/mL was noted (normal:25-111 pg /mL). Indium-111 octreotide somatostatin receptor scintigraphy (SSRS) showed a focally increased uptake in the right upper quadrant (Figure A).

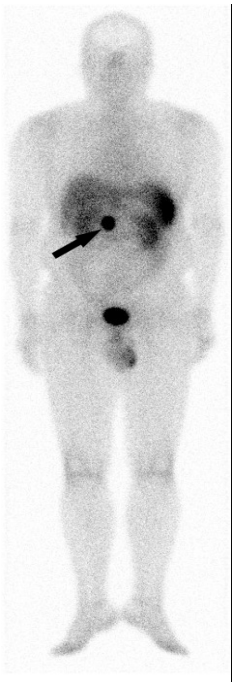

Figure A . 111 In-pentetreotide (OctreoScan®) showed an elevated tracer uptake in pancreas head (arrow)

After discontinuation of PPI for a week, the exam of intra-arterial calcium gluconate stimulation with hepatic venous sampling revealed sharp rises of serum gastrin levels in the samples from gastroduodenal artery and superior mesenteric artery (Figure B). Concomitant angiography showed a hypervascular tumor at the pancreatic head (Figure C).

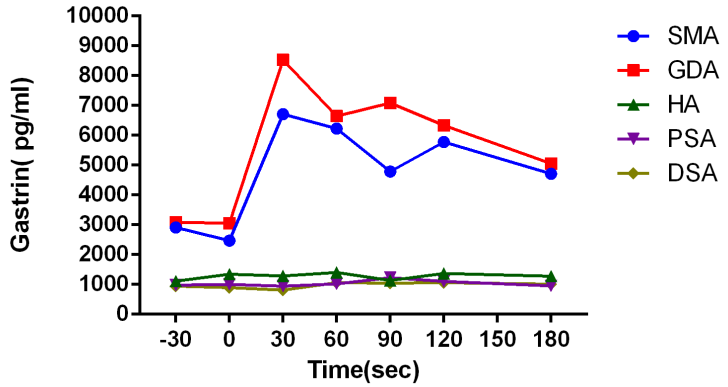

Figure B . Selective intra-arterial calcium stimulation test showing a marked increase in gastrin with injection of calcium gluconage into only superior mesenteric artery (SMA) and gastroduodenal artery (GDA), suggestive of gastrinoma from pancreatic head. Hepatic artery=HA, proximal splenic artery=PSA, distal splenic artery=DSA.

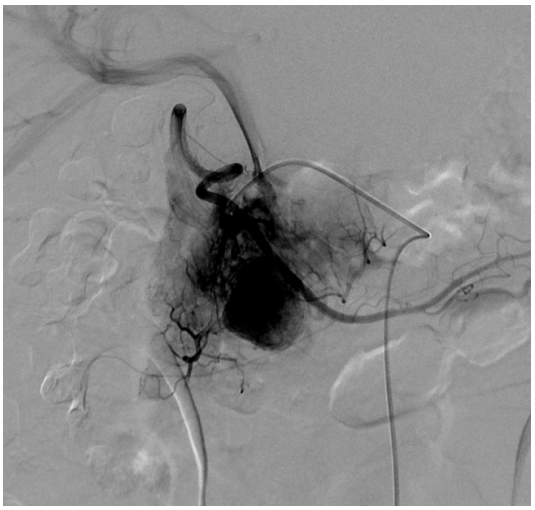

Figure C . Digital subtraction angiography showed a hypervascular tumor supplied by gastroduodenal artery

Abdominal computed tomography (CT) also confirmed the existence of the tumor. Hormonal studies and magnetic resonance imaging (MRI) of sella showed no associated multiple endocrine neoplasia type 1(MEN-1).

The surgery of pancreatoduodenectomy disclosed a well-capsulated tumor (2.8 x 2.4 x 2.2 cm) over pancreatic head. Histopathological examination showed a well-differentiated neuroendocrine tumor, (Figure D) immunoreactive for chromogranin A, synaptophysin, and gastrin. 2 months later , the patient was in good condition with normal gastrin levels (60.4pg/mL).

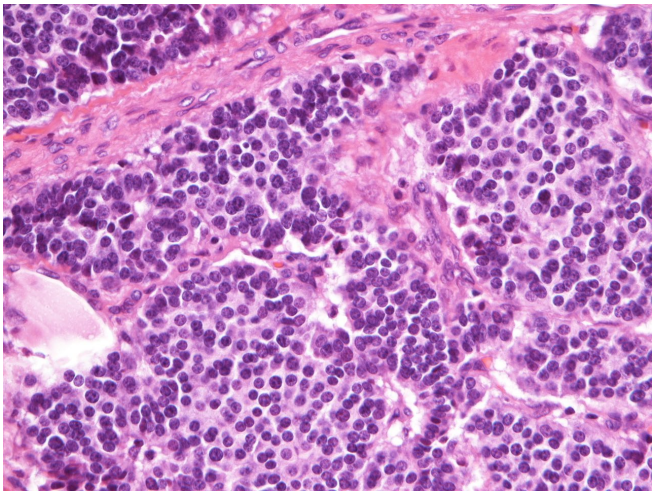

Figure D . Microscopic examination of the tumor showed a typical pattern of a neuroendocrine tumor composed of hyperchromatic, monomorphic, well differentiated round cells with regular nuclei in a trabecular pattern (hematoxylin and eosin stain, 400x);

Discussion

ZES/gastrinoma was characterized by the triad of intractable peptic ulceration in unusual locations, hypersecretion of gastric acid, and gastrin secreting non-β islet cell tumor of the pancreas. Approximately 80 percent gastrinomas are sporadic, and the others developed from multiple endocrine neoplasia type 1 (MEN1).

It is difficult to diagnose ZES/gastrinoma early. Because it is usually misdiagnosed as idiopathic peptic ulcer disease and functional gastrointestinal disorders, resulting in a delay diagnosis for 5.2 years. The diagnosis of ZES should have high serum gastrin value greater than 10 times the upper limit of normal (between 110 and 1000 pg/mL) in the presence of a gastric pH below 2 to exclude secondary hypergastrinemia (e.g., atrophic gastritis, *Helicobacter pylori* infections, PPIs use]).

Over 90% of the gastrinomas are situated in an anatomic triangle, which is described as the junction of the head and neck of the pancreas, the junction of the common bile and cystic ducts, and the junction of the 2nd and 3rd part of the duodenum.[1] CT, MRI, endoscopic ultrasound and Indium-111 octreotide somatostatin receptor scintigraphy (SRS) are useful to detect the primary tumor. Selective intra-arterial calcium or secretin stimulation with venous sampling can localize gastrinoma with high sensitivity and specificity.

Early diagnosis remains the most important issue in the management of ZES. Physicians should know that the ZES symptoms may be masked by PPI treatment. The triad of abdominal pain, diarrhea, and weight loss in the presence of ulcer disease may alert the physician to ZES/gastrinoma, especially for those patients who require long-term PPI to control their symptoms.