Robotic Resection Of An Insulinoma

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Introduction

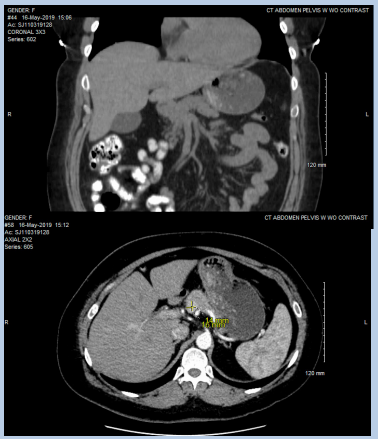
Insulinomas are the most common functional pancreatic neuroendocroine tumors (PNETs). They are typically small and benign and 99% of them are found in the pancreas. Less than 10% are malignant and they are most common in females. We describe a case of an insulinoma that was robotically resected.

Case

The patient was a 41-year-old female who was diagnosed with an insulinoma. She originally presented to her physician with complaints of disorientation, blurry vision, dizziness, headaches and nausea four hours after eating a meal and resolution with food. She also was experiencing vague right-sided abdominal pain. She underwent a CT scan which showed a 1.5 x 1.5 cm mass in the neck of the pancreas. An EUS with biopsy confirmed a low-grade neuroendocrine tumor. Given her persistent symptoms, patient underwent a Robotic-assisted laparoscopic pancreatic tumor resection. Final pathology showed a well-differentiated neuroendocrine tumor.

Discussion

Insulinomas are the most common PNETs. The most common presentation is secondary to hypoglycemia which results in headaches, confusion, and visual disturbances as was seen in our patient. Patients can also experience palpitations, sweating, and tremors. Whipple's triad consisting of symptoms of hypoglycemia, a plasma glucose less than 40 mg/dL, and relief of symptoms with the administration of glucose is pathopneumonic of an insulinoma and can lead to the diagnosis. Patients must demonstrate an elevated insulin to glucose ratio during fasting with an associated elevated C-peptide. The gold standard for diagnosis is a 72-hour fast and failure of insulin suppression in the setting of hypoglycemia supports the diagnosis. Because of their small size with more than 80% less than 2 cm, they can be difficult to localize.



Axial (1) and coronal (2) view showing a pancreatic mass in the neck of the pancras

Discussion

CT and MRI are the initial imaging modalities of choice; however, they only localize in about 10-40% of cases. Somatostatin receptor scans can sometimes be useful but localize in only about 25% of cases. EUS has been showing to be useful and can localize an insulinoma in 70-95% of cases. Since fewer than 10% are malignant, the majority of patients achieve cure with removal. Enucleation can be done safely if the tumor is greater than 2-3 mm from the pancreatic duct; otherwise, resection is warranted.

References

1.Cameron, J. L. 1. (2004). Current surgical therapy (8th ed.). Philadelphia: Elsevier Mosby.

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