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CASE REPORT

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Insulinoma in extreme obese women treated with minimally invasive procedure

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Introduction

Insulinoma is the most common functioning neuroendocrine tumor of the pancreas and occurs with an incidence of 4 per million patients per year. It may be associated with other endocrine gland tumors in type I multiple endocrine neoplasia (MEN I). Although rare, is the main cause of endogenous hyperinsulinemic hypoglycemia. The male-to-female ratio for insulinomas is 2:3. No racial predilection appears to exist. The median age at diagnosis is 47 years old, except in patients with MEN 1, in whom the median age is the mid-20's. The most common clinical manifestations are neurovegetative and neuroglycopenic symptoms secondary to hypoglycemia. Progressive weight gain is also an important clinical feature, due to the anabolic action of insulin and the need to feed periodically in an attempt to reduce hypoglycemia. The presence of neuroglycopenic symptoms, that sometimes may be confounded with psychiatric symptoms, may lead to delay or misdiagnosis. In our country, there are few publications about the early diagnosis and treatment of this neoplasm. Surgery still seems to be the best treatment option but, in selected case in which there are high surgical risk, the minimally invasive procedures, such as endoscopic ultrasound (EUS) guided ethanol ablation can be a good choice of treatment. We report a case of an insulinoma in a patient with extreme obesity that was submitted to a less invasive treatment due to surgical risks.

Case

A 22-years old woman, presented progressive weight gain of 65 kg in 1 year (163kg, BMI: 59.6kg/m^2). After using intragastric balloon for 6 months, she developed hypoglycemic (neuroglycopenic and adrenergic) symptoms, including tonic-clonic seizures, tremors, loss of consciousness, confusion, sweating and time and space disorientation. Prolonged fasting test (PFT), was performed and showed after 40 minutes plasma glucose: 44mg / dl (≤55mg/dl); C peptide: 3.2 ng / ml (≥0.6 ng/ml) , insulin: 47 mU/ml (≥3mU/ ml), anti-insulin antibody negative. After glucagon administration, glucose was increased, as expected. Endoscopic ultrasound (EUS) showed a homogeneous hypoechoic lesion in the cephalic region of uncinate pancreas process and fine needle puncture (FNAB) showed cells with atypia of indeterminate significance. Magnetic Resonance Image (MRI) of the abdomen showed a 1.9 cm hypervascular nodule in the cephalic portion of the pancreas, very close to cava vein. The main hypothesis was an insulinoma. Diazoxide was prescribed with improvement of hypoglycemia. Due to the patient's severe obesity and the tumor localization, a multidisciplinary team decided to do a minimally invasive procedure. An endoscopic ultrasound (EUS) guided ethanol ablation with 1.5ml of absolute ethanol and a fine needle aspiration were performed with general anesthesia without complications. On the following days of the procedure, surveillance for pancreatitis was performed. Anatomopathological showed immunohistochemistry positive for insulin and ki 67%<1%. Diazoxide was gradually discontinued. Laboratory exams of the 30th postoperative day: fasting glycaemia: 89 mg/dl, peptide C: 5.18 ng/dl, insulin: 45.51 Uui/ml. After 6 months of the procedure, the patient remains without hypoglycemia and lost 10 kg.

Conclusion

Insulinoma as described above is a rare condition, but should always be part of the differential diagnosis of obesity and hypoglycemia. Careful analysis and multidisciplinary decision-making for best behavior are key. Minimally invasive treatment is promising, with reduced surgical risks, shorter hospital stay and increased quality of life after the procedure. As seen in our case.

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