Insulinoma: case report

Insulinoma: relato de caso

Insulinoma: reporte de caso

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ABSTRACT

The present study aims to depict a case of insulinoma in a 31-year-old woman, a patient of a private hospital in Maceió, state of Alagoas, presenting informative data regarding the medical follow-up performed during her treatment. She presented signs of mental confusion, behavioral changes, weakness, blurred vision, hypoglycemia, and loss of consciousness. Subsequently, a computed tomography (CT) scan of the abdominal region revealed a suggestive lesion of insulinoma. An endoscopic pancreatic ultrasound was then performed to evaluate the situation of the lesion. A partial pancreatectomy was performed, with enucleation of the pancreatic tumor by videolaparoscopy. The patient was diagnosed with a well-differentiated neuroendocrine
tumor, grade 1 (NET G1), and is currently undergoing oncological follow-up every six months, with laboratory and imaging exams, without presenting any pathological or clinical alterations to date.

**Keywords:** insulinoma, Cancer, pancreas.

**RESUMO**

O presente estudo tem como objetivo retratar um caso de insulinoma em uma mulher de 31 anos, paciente de um hospital privado de Maceió, Alagoas, apresentando dados informativos quanto ao acompanhamento médico realizado durante seu tratamento. Apresentou sinais de confusão mental, alterações comportamentais, fraqueza, visão turva, hipoglicemia e perda de consciência. Posteriormente, uma tomografia computadorizada (TC) da região abdominal revelou lesão sugestiva de insulinoma. Foi então realizada ultrassonografia pancreática endoscópica para avaliar a situação da lesão. Foi realizada pancreatectomia parcial, com enucleação do tumor pancreático por videolaparoscopia. O paciente foi diagnosticado com tumor neuroendócrico bem diferenciado, grau 1 (NET G1), e atualmente realiza acompanhamento oncológico semestral, com exames laboratoriais e de imagem, sem apresentar até o momento alterações patológicas ou clínicas.

**Palavras-chave:** insulinoma, Câncer, pâncreas.

**RESUMEN**

El presente estudio tiene como objetivo describir un caso de insulinoma en una mujer de 31 años, paciente de un hospital privado de Maceió, estado de Alagoas, presentando datos informativos sobre el seguimiento médico realizado durante su tratamiento. Presentó signos de confusión mental, cambios de comportamiento, debilidad, visión borrosa, hipoglucemia y pérdida del conocimiento. Posteriormente, una tomografía computarizada (TC) de la región abdominal reveló una lesión sugestiva de insulinoma. Posteriormente se realizó una ecografía endoscópica pancreática para evaluar la situación de la lesión. Se realizó pancreatectomía parcial, con enucleación del tumor pancreático mediante videolaparoscopia. La paciente fue diagnosticada con un tumor neuroendocrino bien diferenciado, grado 1 (NET G1), y actualmente se encuentra en seguimiento oncológico semestral, con exámenes de laboratorio y de imagen, sin presentar hasta la fecha alteraciones patológicas ni clínicas.

**Palabras clave:** insulinoma, Cáncer, páncreas.

**1 INTRODUCTION**

Insulinoma is a rare neoplasm, however, within functioning neuroendocrine pancreatic tumors it has a greater relevance. For the most part, they are small, solitary and benign. A percentage of cases of insulinoma are detected when in an advanced stage, of metastasis and/or after involvement of adjacent organs such as the liver and regional lymph nodes. This is a neoplasm with greater occurrence in women of different age groups, being more commonly found between 30 and 60 years of age. One of the main characteristics of cases of insulinoma...
in adults is the occurrence of hyperinsulinemic hypoglycemia, caused by excessive secretion of insulin by the pancreas. The diagnosis is made when there is an association between the symptoms of hypoglycemia and the presence of Whipple's triad (Apodaca-Torrez et al., 2003; Arlsan et al., 2015; Zhang et al., 2021).

Whipple's triad is characterized by the occurrence of symptoms of hypoglycemia with levels below 55mg/dL, hypoglycemia confirmed by serum tests in the presence of symptoms, and relief of symptoms after reversal of the hypoglycemic condition. Due to their neuroendocrine nature, insulinomas secrete several substances such as adrenocorticotropic hormone (ACTH), serotonin, chorionic gonadotropin, gastrin, glucagon, somatostatin, or pancreatic polypeptide, in addition to insulin (Soldan, 2017; Orujov; Lai; Forse, 2019).

The present study aims to depict the report of an insulinoma case in a 31-year-old woman, a patient of a private Hospital of Maceió, in the state of Alagoas, presenting informative data regarding the medical follow-up performed during her treatment, to enrich the literature based on the theme involved. This case report was submitted and approved by a Human Research Ethics Committees, with CAAE 59670022.3.0000.0039 and approval number 5.513.207.

2 CASE REPORT

A 31-year-old woman was admitted to a private hospital in Maceió, Alagoas, presenting symptoms such as mental confusion, behavior change, weakness, irritability, blurred vision, tremors in the extremities, and hypoglycemia. She had no comorbidities and used contraceptives daily for three years.

Eighteen days later, she returned to the hospital emergency with signs of mental confusion, behavior change, weakness, blurred vision, hypoglycemia, and loss of consciousness. A computed tomography (CT) scan of the abdominal region was requested, where a lesion suggestive of insulinoma was found (Figure 1). Therefore, an endoscopic pancreatic ultrasound was performed to assess the situation of the lesion. The report found the presence of a solid nodule, located in the transition between the neck and head of the pancreas, measuring 14.6 mm x 11.5 mm.
A partial pancreatectomy was then performed, where enucleation of the pancreatic tumor was performed by videolaparoscopy, in the uncinate process, with close contact with the superior mesenteric vein, with complete resection of the lesion, with a margin of approximately 30 mm. The patient was taken to the intensive care unit (ICU), remained under observation for 24 hours, and was admitted to an outpatient bed for another 24 hours, without any clinical changes.

The surgically collected material was sent for laboratory analysis, where the immunohistochemical study of the piece was performed. The characteristics found refer to a well-differentiated neuroendocrine tumor, grade 1 (net g1).

Twenty-one months after the presentation of the first symptoms, molecular analysis of the MEN1 gene was performed, and pathogenic variants were not found to define the molecular diagnosis related to the clinical picture. Another molecular analysis was performed eight months later, where molecular analysis of the VHL gene, Von Hippel-Lindau disease, associated with CNV analysis. It's still waiting for a result. The patient continues to undergo oncological follow-up every six months, performing laboratory and imaging tests, showing no pathological and clinical changes to date.

3 DISCUSSION

Yao and collaborators (Yao et al., 2020), in their article, reports the occurrence of insulinoma in two patients, both with the same clinical history as the patient reported. The first
patient, 44 years old, and the second, 65 years old, also had symptoms such as hypoglycemia, sweating, palpitations and weakness for a period of 4 years.

Like the patient portrayed in this case report, they were referred to the hospital, and underwent physical and hematological examinations, which showed no changes. In contrast, the contrasted magnetic resonance images of previous cases found the presence of a well-defined lesion with a rounded shape (Yao et al., 2020), measuring 18 mm in diameter in the caudal portion of the pancreas.

Both patients were referred for a laparoscopy where well-demarcated tumors were found. A tissue sample was taken from the lesions and sent for histopathological analysis, where it was found that it was a tumor of a benign nature in all cases. There are cases reported in which, due to difficulties during surgery, the procedure changed, but the tumor nature remained benign (Rodrigues et al., 2024).

Other case report depicts a 62-year-old man occurrence of insulinoma (Arlsan et al., 2015), who had recurrent symptoms of hypoglycemia. The patient underwent a range of clinical and laboratory tests that did not indicate any abnormality. As in the case report in question, many patients diagnosed with insulinoma, despite having symptoms that call the attention of the medical team, do not show changes when the physical and/or blood examination is performed.

On the other hand, computed tomography of the abdomen as well as computed ultrasound can confirm the presence of a pancreatic lesion suggestive of insulinoma, as described (Anakal et al., 2014; Novaes et al., 2021). In their research, the abdominal ultrasound revealed the presence of multiple liver lesions in addition to the pancreatic tumor, unlike the case reported, where an endoscopic ultrasound was performed revealing the presence of a solid nodule. However, these findings reinforce the importance of performing imaging tests to complement and/or confirm the diagnosis.

Finally, in a 24-year-old patient (Oliveira et al., 2003), who presented the same symptoms of recurrent hypoglycemia, and was later diagnosed with insulinoma, raises the idea that, unlike the clinical findings, the symptomatology is of fundamental relevance to close the diagnosis.
REFERENCES


