Case Report

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A Case Study: Effects of Insulinoma in Psychiatric Patient

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ABSTRACT

An insulinoma in a neuroendocrine tumor of the beta cells in the pancreas. An effect of insulinoma is an excessive secretion of insulin more than the requirement of body. Features of the condition include confusion, sweating, weakness, palpitation, seizures and even coma in severe cases. We report this case of a 61-year-old male presenting with acute confusion, on a background history of dizziness, palpitations and seizure disorder for which he is being managed medically for the last 5 years. Initial investigations revealed blood glucose of 41mg/ dl and his symptoms responded well to dextrose infusion. At this point a differential of an insulinoma and factitious disorder was made and there was a need for further assessment. The patient was therefore referred to the surgical and mental health team. Computed Tomography (CT) scan detected a 1.4cm lesion at the tail of the pancreas and 72-hour supervised fasting along with CT scan confirmed the diagnosis of an insulinoma. The patient underwent a distal pancreatectomy after optimization during the same admission. Biopsy also proved insulinoma. Post-operative recovery was uneventful. During 6 months post-operative follow up he has remained asymptomatic with no seizures and not requiring further input by the psychiatric team.

Objective: Main objective of this case study was to cover the psychiatric and surgical impact on patient with insulinoma. In depth case study of insulinoma reveals all aspects of surgical and psychiatric illness.

Method: This case study was designed for in depth review about psychiatric symptoms and impact of surgery on insulinoma patient. For this purpose, the patient was selected with specific presenting complaints of psychiatric illness and impact of surgery is analyzed. The patient had multiple admissions with these complaints for past 5 years and the symptoms were quite distressing. Diagnosis was made after proper investigation through imagining and biochemical test. Psychiatric investigation was done through behavioral observation, mental state examination and Beck Anxiety Inventory for formal assessment.

Results: Results of all investigations and testing revealed that insulinomas can potentially have an effect on aspects of wellbeing. Its impacts are biological, neural, psychological, social and indigenous. Studies have shown that the neurochemical anatomy of brain can be affected and symptoms of anxiety or depression can be seen in this condition. It also shows that considering all the effects are due to excessive insulin secretion surgery is potentially curative.

Keywords: Neurochemical Anatomy; Unconscious; Investigation; Diagnosis

Introduction

Insulinoma is a rare and generally benign form of pancreatic neuroendocrine tumors. Pancreatic neuroendocrine tumors (PNET) are formed in the islet cells of the pancreases. Beta cells control the increase of insulin, and this production is dependent on blood sugar. However, in insulinomas the insulin production is independent of the blood sugar. These tumors may be symptomatic or present with no symptoms at all. Symptoms in insulinoma are usually neuroglycopenic including- recurrent headache, diplopia, lethargy and in severe cases seizures and coma may occur. Palpitations, sweating, hunger can be seen due to catecholamine response to hypoglycemia. Syndromes have been linked with these tumors such as multiple endocrine neoplasia, neurofibromatosis (NF1), Certain conditions including, type II diabetes and pancreatitis have been associated with pancreatic neuroendocrine tumors [1]. Different medical techniques are used to diagnose includes CT scan, MRI, neuroendocrine positron emission tomography and endoscopic ultrasound [2]. Successful treatment of neuroendocrine tumor is present in case when it has not spread to the body. Treatment options include surgery and chemotherapy depending on the stage of detection.

Case Presentation

A 61-year-old male presented to our services in an acute confusional state. He had been managed as a case of anxiety in the past as he had palpitations, tachycardia, dizziness, seizures. Initial assessment of this patient revealed blood glucose of 41mg/dl. All other blood works were normal. Physical examination was unremarkable. The patient was commenced on dextrose infusion which he responded well to. Differential diagnosis of insulinoma and factitious hypoglycemia was made, and the patient was referred to the surgical and mental health services. Computed Tomography revealed a 1.4cm lesion at the tail of the pancreas and a 72-hour supervised fasting CT scan confirmed the diagnosis of an insulinoma. The patient was assessed by the surgical team and optimized for surgery in the same admission. A distal pancreatectomy was carried out and the immediate postoperative phase was uneventful. Biopsy sent to the pathology laboratory confirmed the diagnosis of insulinoma. He was discharged on the 8th day postoperatively and he has remained asymptomatic without psychiatric medications and antiepileptic medications during the 6 month post-operative follow up.

Discussion

The patient reported in this case had previously presented with symptoms suggestive of psychiatric illness. On subsequent presentation to the hospital in acute confusion, investigations done was more in keeping with an insulinoma which required surgical intervention. Surgical intervention is curative for most patients. In certain patients, medications such as diazoxide and octreotide is used, particularly when awaiting surgery or not candidates for surgery [3] Insulinomas are often characterized by the Whipple triad-neuroglycopenic symptoms, autonomic symptoms with low serum glucose (less than 50mg/dL) resolving following administration of glucose. Laboratory and radiological investigations are used to confirm the diagnosis of insulinoma [4] Biochemical, biological, psychological, spiritual and social aspects are interlinked with each other, and this was highlighted in this case. There is indication that the neurochemical anatomy was changing, and social condition of the patient illustrates panic attacks and anxiety symptoms. Surgical intervention resulted in resolution of his symptoms and his symptoms of mental illness improved and the patient continued to do well after treatment.

Limitations

Limitation of this case study was that there was no interaction with patient family or friends due to patient wishes, which could have provided in-depth knowledge about the manifestation of panic attack symptoms and about his physical condition. The patient was managed conservatively for his symptoms without having any focussed investigations for almost 5 years before his final presentation to emergency.

Ethical Approval

This case report was carried out in an official condition of hospital settings. All investigations and treatment were provided to patients under ethical conditions.

Consent

Consent form was filled by the patient for the publication of case report.

Conflict of Interest

The authors declare that there is no potential conflict with authorship, research, publication and informed consent.

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