gangliomas, and duodenal somatostatinomas. However, its association with insulinoma is extremely rare, with only a few cases reported.

CASE

A 66-year-old female with longstanding NF-1 presented with a six-month history of recurrent symptomatic hypoglycaemia. She was non-diabetic, lived in a nursing home, and had no history of hypoglycaemic agent use. Her episodes, typically occurring during fasting, were associated with intense hunger and resolved with food intake. Capillary glucose readings ranged from 1.7 to 3.1 mmol/L. She was admitted after being found unconscious with a glucose level of 1.7 mmol/L. Clinical examination revealed multiple dermal neurofibromas and café-au-lait spots. In the ward, paired samples during spontaneous hypoglycaemia (glucose 1.6 mmol/L) showed inappropriately elevated insulin (53.9 pmol/L) and C-peptide (465 pmol/L). After intramuscular glucagon (1 mg), her blood glucose rose from 3.0 to 6.4 mmol/L over 60 minutes. Morning cortisol (450 nmol/L) and IGF-1 (113.5 ng/mL) were normal. β-hydroxybutyrate, IGF-2, and sulphonylurea levels were not tested due to financial limitations. These findings confirmed the presence of endogenous hyperinsulinaemia. A pancreatic CT scan was scheduled to localize the suspected insulinoma but was missed twice. She later re-presented with a seizure, likely secondary to hypoglycaemia, as both brain CT and EEG findings were unremarkable. To better control her hypoglycaemia, diazoxide and a calcium channel blocker were initiated. Imaging was subsequently rescheduled to aid in localizing the insulinoma.

CONCLUSION

Although rare, insulinoma should be considered in NF-1 patients presenting with recurrent hypoglycaemia. Early recognition and appropriate investigation are crucial to prevent serious complications.

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POLYGLANDULAR AUTOIMMUNE SYNDROME TYPE 3: THE UNEXPECTED TRILOGY

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INTRODUCTION/BACKGROUND

Polyglandular autoimmune syndromes (PGAS) are a rare group of disorders characterized by the presence of two or more autoimmune endocrine diseases. Polyglandular autoimmune syndrome type 3 (PGAS-3) is characterized by the presence of autoimmune thyroid disease associated with other autoimmune diseases excluding adrenal insufficiency and hypoparathyroidism. This case report focuses on a patient who developed a sequential presentation of pernicious anemia, Graves' disease, and later type 1 diabetes mellitus (T1DM), raising suspicion for PGAS-3.

CASE

A 30-year-old male presented in 2019 with fatigue, weight loss, and palpitations. Initial investigations revealed pancytopenia with Hb 4 mmol/L, WBC 3.99 mmol/L, PLT 87 mmol/L and a critically low vitamin B12 level, alongside positive anti-parietal cell antibodies, indicative of pernicious anemia. Oesophagogastroduodenoscopy (OGDS) was done later in 2023, showing pangastritis. Concurrently, the patient was found to have hyperthyroidism with positive thyroid antibodies, consistent with Graves' disease. He was treated with subcutaneous cyanocobalamin and antithyroid medications, resulting in partial improvement. He underwent radioactive iodine therapy for Graves' disease. Four years later, the patient was hospitalized for uncontrolled diabetes mellitus. Insulin autoantibodies were requested and results of anti-islet cell antibodies, anti-glutamic acid decarboxylase and anti-insulinoma-associated antigen-2 were positive, leading to the diagnosis of T1DM. Adrenocorticotropic hormone (ACTH) and early morning serum cortisol were normal, excluding adrenal involvement. The coexistence of Graves' disease, pernicious anemia, and T1DM fulfilled the diagnostic criteria for PGAS-3. Genetic testing and further autoimmune screening were recommended for a more comprehensive understanding of the underlying pathophysiology.

CONCLUSION

The patient's progression from pernicious anemia to Graves' disease followed by T1DM is consistent with polyglandular autoimmune syndrome type 3. Clinicians should be vigilant in identifying PGAS in patients with multiple autoimmune endocrine disorders to ensure appropriate diagnosis and treatment, mitigating its potential long-term consequences.