7. FUNDOPLICATION-INDUCED HYPERINSULINEMIC HYPOGLYCEMIA

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Introduction. Hypoglycemia is often diagnosed in diabetic patients; however, this diagnosis is far rarer in non-diabetic patients. Hypoglycemia in non-diabetic persons is polyetiological. Patients often require an extensive history and array of investigations due to similar clinical presentations with insulinomas. Frequent hypoglycemic episodes in non-diabetic patients with a history of gastric surgery should raise concern for Late dumping syndrome (LDS).

Case presentation. A 52-year-old woman was admitted to Republican Clinical Hospital in September 2023 with complaints of tremors, hyperhidrosis, palpitations, headache, foggy vision, fatigue, and low tolerance to exertion. She attributes her symptoms to hypoglycemia. Further workup confirms episodes of low blood glucose (1.3 mmol/l). She states these episodes have been ongoing for the last 5 years. Her medical history highlights the presence of an adrenal tumor and a Nissen fundoplication in 2018. The patient mentions that the hypoglycemic episodes appear 1-1.5 hours after the intake of food. Available imaging of the abdomen reveals a unilateral adrenal mass and no signs of tumor formation in/around the pancreas. A 72-hour fasting test was conducted and no hypoglycemia was registered. Bloodwork revealed normal C-peptide and insulin levels. Follow-up of the adrenal tumor included metanephrine levels, aldosterone/renin ratio assessment, and low-dose dexamethasone test. Results demonstrate a non-secretory adrenal tumor. The absence of hypoglycemia during the 72-hour fast, coupled with normal insulin and C-peptide levels, excluded an insulinoma, and late dumping syndrome (LDS) was suspected given a history of gastric surgery and postprandial hypoglycemia. Adjustments of the patient's diet subsequently resolved the episodes of hypoglycemia.

Discussions. The work-up of a non-diabetic patient with episodic hypoglycemia is complex given the multifactorial etiologies. Things like alcohol or drug administration, liver, renal or primary adrenal failure, neoplasia, insulin/insulin receptor antibodies, insulinomas, and bariatric surgery could lead to hypoglycemia. Evaluation of the patient excluded endogenous hyperinsulinemia and ruled out most causes of hypoglycemia, apart from LDS – a possible adverse effect of the patient's gastric surgery.

Conclusion. This case represents the challenges of diagnosing hypoglycemia in non-diabetic patients. LDS can occur after gastric surgery. Patients experience episodes of postprandial hypoglycemia. A clinician's awareness of the adverse effects of gastric surgery and patient education on proper diet following surgery may help prevent LDS.

Keywords. Hypoglycemia, gastric surgery, late dumping syndrome