An unusual case of Hypoglycemia in a 19 year-old
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INTRODUCTION

- Hypoglycemia can present in many ways depending on patient’s age, etiology and comorbidities
- On presentation neuroglycemic and adrenergic symptoms typically predominate which can present a broad differential
- In younger patients hypoglycemic syndromes are likely to present as psychosis, confusion and agitation.
- It is important to note the temporal relationship these symptoms have with long periods of fasting and the presence of hypoglycemia during these episodes

CASE DISCUSSION

- A 19 year old male presents with a three month history of recurrent episodes of confusion, acute psychosis, odd behaviors, and unilateral weakness
- His parents noted that his symptoms were predominately worse during late night hours and the patient would have no recollection of the events the next morning.
- During his initial hospitalization he developed an episode of psychosis, agitation and confusion in the middle of the night which led to a psychiatry referral when he was discharged the next morning
- One day later patient presented for a second time with confusion, right sided hemiparesis and right sided facial droop
- In the ED his Blood glucose level was 40mg/dL and patient was given a 40mL D50 bolus with initiation of D5W and admitted for further work up
- Blood glucose remained low on a continuous D5W infusion and patient was transferred to the ICU for serial blood glucose checks and initiation of D10 infusion

Further Work up and Management

- Finger stick Glucose during symptomatic episode-40mg/dl (Low)
- Insulin levels- 41.6 uIU/mL (High)
- Pro-Insulin Levels- 28.1 pmol/L (High)
- C-peptide Levels- 2.2 ng/mL (Normal)
- Sulfonylurea Screen- Negative
- Figure 1- CT scan showing 1.5 cm pancreatic tail
- MRI abdomen revealed a 1.5 cm gadolinium enhancing mass in the same location
- Endoscopic Ultrasound with fine needle aspiration of mass- Lobular cells which positively stained with Chromogranin A and insulin

CASE DISCUSSION

- Sulfonylurea Screen and C-peptide levels were obtained which ruled out oral hypoglycemic use and exogenous insulin use
- ACTH, Insulin autoantibodies, and anti-adrenal antibodies were obtained and all were within normal limits
- Insulin, Proinsulin and C-peptide levels were obtained during a 72 hour fast and were elevated
- CT and MRI were obtained which showed a 1.5cm mass in the tail of the pancreas
- Underwent biopsy that showed lobular cells with low mitotic index that stained positive for Chromogranin A and Insulin, consistent with Insulinoma
- Patient underwent Robotic enucleation of the mass and had resolution of hypoglycemic symptoms

DISCUSSION

- Insulinomas are most often low grade tumors derived from beta cells in the pancreas and typically present during the 5th decade of life.
- Incidence and prevalence- 3-10 cases per million per year and 4% are associated with MEN 1 syndrome
- Lab work up- Sulfonylurea screen, Blood glucose levels, Insulin levels, Pro-insulin levels, C Peptide levels
- Diagnosis- A demonstration of inappropriately high Insulin and pro-Insulin levels during periods of fasting are characteristic. Further imaging should be pursued to look for the presence of a tumor. Biopsy of the mass that stains positive for Insulin and Chromogranin A provides a definitive diagnosis
- Figure 2- Details laboratory findings of various hyperinsulinemic hypoglycemic syndromes
- Treatment- Surgical Excision is curative in 90% of cases
- Patients should be screened for MEN 1 syndrome

REFERENCES