



# Navigating the Challenges of Recurrent Hypoglycemia: A Case Report

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## Case Description

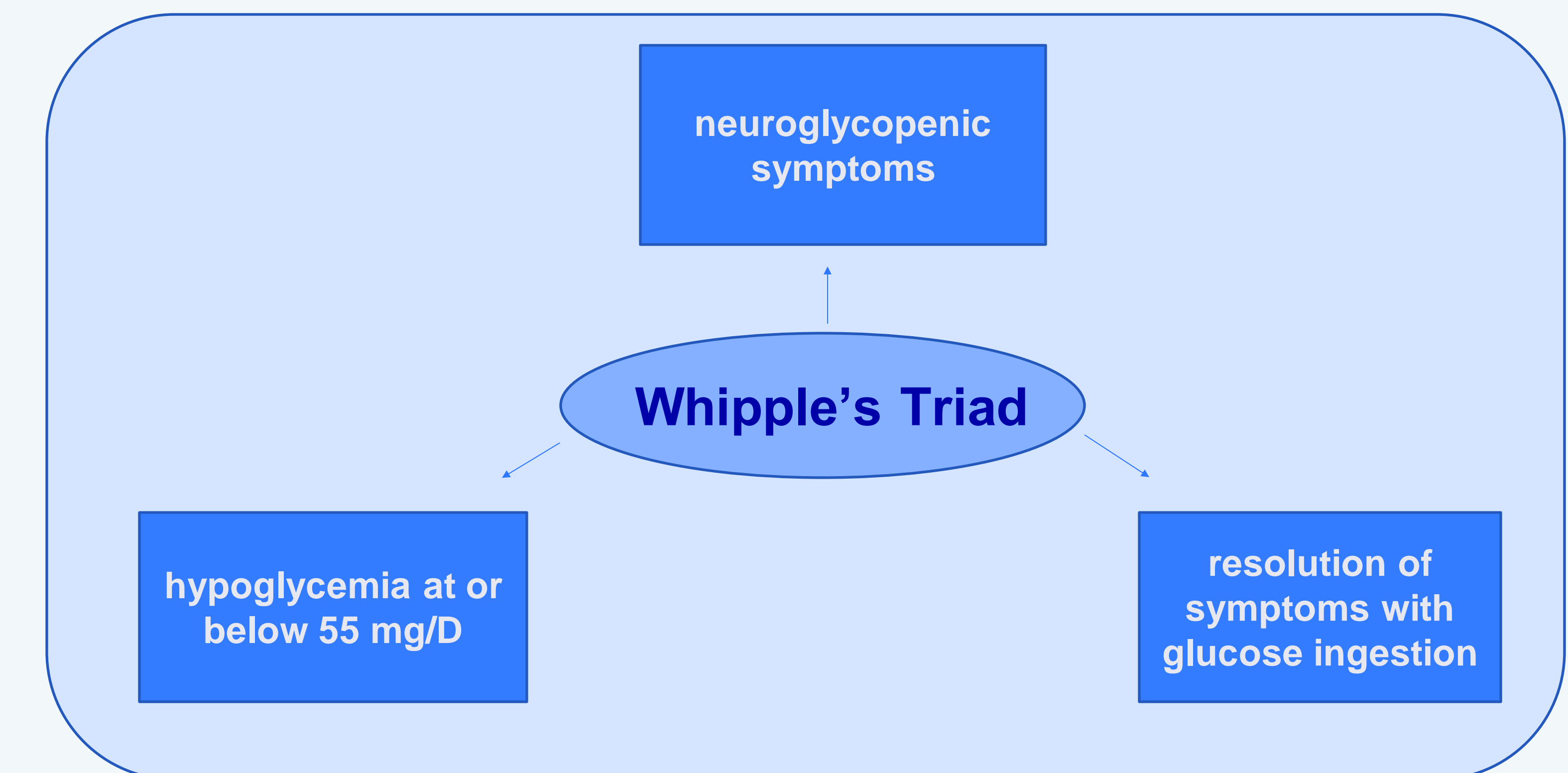
- A 28 year old female with past medical history of diabetes type II in remission after sleeve gastrectomy presented with recurrent refractory hypoglycemia.
- The patient presented with headaches, fatigue with blood sugar readings that range from 40s to 150s.
- She received intravenous and oral glucose in the emergency room and was then started on D5 normal saline.
- Endocrinology was consulted due to recurrent recent hospitalizations and started the patient on octreotide and Diazoxide which helped to wean the patient from the D5W drip and achieve euglycemia. The patient was then discharged home with close endocrinology follow-up.
- On the outpatient follow-up, the patient reported good glycemic control with only one episode of hypoglycemia since discharge.
- She continued Octreotide which inhibits insulin action but discontinued Diazoxide due to high cost and side effects of fluid retention and hypertension. She was started on Diltiazem which helped improve blood pressure control and reduced insulin production.
- The patient underwent a SPECT CT study that revealed Small sub centimeter nodule along the tail of pancreas without radiotracer uptake, however biopsy revealed only lymphoid tissue with no evidence of neuroendocrine tumor.
- The patient also underwent a selective arterial calcium stimulation study that determined if there is an insulin producing tumor, it is likely in the head of the pancreas.
- Surgical intervention would therefore require a Whipple procedure, and there is still no guarantee that would be curative.

## Discussion

- In normal physiologic conditions, the pancreatic beta cells are able to secrete insulin to maintain fasting euglycemia.
- Hypoglycemia without a diagnosis of diabetes is rare and needs further assessment. If a whipple triad is met (neuroglycopenic symptoms, hypoglycemia at or below 55 mg/DL, resolution of symptoms with glucose ingestion) then further workup is necessary.
- Hypoglycemia can be attributed to medications, kidney or liver dysfunction or malnutrition.
- Hyperinsulinemic hypoglycemia is a disorder in which pancreatic beta cells secrete insulin despite low blood sugar levels, leading to hypoglycemia.
- There are genetic causes that lead to congenital hyperinsulinemic hypoglycemia in children.
- In adults, secondary risk factors lead to hyperinsulinemic hypoglycemia such as -insulinoma, noninsulinoma pancreatogenous hypoglycemia syndrome and post bariatric surgery.
- The patient's symptoms are likely due to two components. The first being dumping syndrome after her sleeve gastrectomy around 10 years ago. This was confirmed with a gastric emptying study that revealed accelerated gastric dumping.
- The second component is hyperinsulinemic hypoglycemia. It is unclear at this time if this is due to insulinoma or a more generalized beta cell hyperplasia.

## Conclusion

- In a patient presenting with recurrent hypoglycemia, it's important to identify the cause as that helps guide medical management.
- Prior to discharge, close outpatient follow-up should be arranged and the patient should be educated on signs and symptoms for hypoglycemia as well as instructed on emergent treatment of hypoglycemia.



**Hypoglycemia without a diagnosis of diabetes is rare and needs further assessment. If a whipple triad is met then further workup is necessary.**

## References

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