

Question 25 – Week of April 26

52-year-old woman who is a nurse is evaluated for recurrent hypoglycemia. She denied any history of DM and on investigation was found to have hypoglycemia with a simultaneous elevation of Insulin. All the following options are appropriate in further evaluation of her problem except

- A. Check a C peptide level during episode of hyperglycemia.
- B. Check blood levels of calcium PTH, TSH, PRL, 5 HIAA, Cortisol etc as clinically indicated.
- C. Perform octreotide scan to diagnose the suspected neuroendocrine tumor.
- D. CT of pancreas + EUS of pancreas to localize a suspected mass lesion.
- E. Calcium gluconate injection and hepatic venous sampling to help localize a suspected lesion.

Answer: C

This patient likely has an insulinoma. An elevated C peptide level during hypoglycemia confirms endogenous insulin production rather than surreptitious use of insulin. Pancreatic neuroendocrine tumors may be a part of the MEN I syndrome and it is appropriate to evaluate for pituitary, parathyroid, thyroid dysfunction along with other neuroendocrine tumors as clinically indicated. Pentetreotide (octreotide) scintigraphy, the preferred test for other islet-cell tumors, will miss up to 40 percent of insulinomas because these tumors do not express a sufficient number of subtype 2 somatostatin receptors. Pancreatic neuroendocrine tumors are often very small and can also be present in the duodenal wall, dedicated pancreas CT and EUS are appropriate imaging modalities for localization. Other imaging modalities that are useful are MRI of pancreas and PET scans. Arterial calcium stimulation with hepatic venous sampling involves selective injection of calcium gluconate into the gastroduodenal, splenic, and superior mesenteric arteries with subsequent sampling of the hepatic venous effluent for insulin. This test is based upon the observation that calcium stimulates the release of insulin from insulinomas but not normal beta cells. Thus, calcium may stimulate insulin release in the same arterial territory as the tumor.

References:

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