

## Hypoglycemia as a manifestation of neoplastic disease and its progression

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### Abstract

**Background and objectives.** Recurrent hypoglycemia in a non-diabetic individual is a rare disease entity from which a paraneoplastic manifestation must be considered. We report two cases of tumor-induced hypoglycemia from two solid tumors associated with a possible paraneoplastic insulin-like growth factor 2 production and review medical literature related to its disease activity, diagnostic principles and management.

**Case presentation:** A 32 year old male with no known comorbidities presented with neuroglycopenic symptoms. Basic laboratory evaluation revealed low serum insulin (0.3 uIU/mL, NV 5-10) and high serum cortisol <75 ug/dL. Imaging demonstrated large liver mass, whereas biopsy revealed primary adenocarcinoma of the pancreaticobiliary tree. Combined hepatocellular carcinoma and cholangiocarcinoma, a rare disease entity itself, was considered. The patient underwent 1 cycle of chemotherapy for which blood glucose levels improved on top of administration of steroids and glucose infusions. A second case of a 68 year old female with known multifocal hepatocellular carcinoma presented with neuroglycopenic symptoms. Serum chemistry revealed low serum insulin 2.8 uIU/mL (NV 5-10), low C-peptide 0.3 (NV 0.78-5.19) while serum cortisol was normal at 123ug/dL. Abdominal imaging showed liver mass in disease progression. Despite glucose infusions, the mass was infiltrative and progressive from which the patient deteriorated and expired.

**Conclusion** Non-islet cell tumor hypoglycemia must be considered in patients with recurrent and fasting hypoinsulinemic hypoglycemia. While its mainstay of treatment is through resection of primary tumor, if systemic and nonsurgical, glucose infusions and glucocorticoids can provide long term relief of hypoglycemia.

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### Biography

Jonni Fay C. Teves graduated with a degree in Medicine in 2019 and has developed her passion in clinical practice in a tertiary government hospital in the Philippines. She is currently a resident of Internal Medicine and her COVID experience has instilled in her

the zeal to streamline time and resources so that patient care is optimized. In her free time, she enjoys reading forensic and Victorian novels, as well as listening to music.  
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