

Downward Dog: Now What?

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Hypoglycemia

Clinical signs of hypoglycemia include lethargy, weakness, anxiety/behaviour changes, tremors, seizures, collapse, coma, and death. Depending on the underlying cause (and the duration of the hypoglycemia), the clinical signs may be subtle/intermittent or severe. Causes of hypoglycemia include spurious results (glucometer, delayed separation of serum), sepsis, puppyhood (particularly in toy breeds), liver failure, hypoadrenocorticism, erythrocytosis, paraneoplastic effect, and hyperinsulinism (iatrogenic or insulinoma). I will review a canine case of hypoglycemia and the diagnostic investigation performed.

Insulinoma

An insulinoma is a rare tumor of the beta cells of the pancreas. Insulinomas typically occur in older dogs (mean age of 8.5-10 years) and most commonly in medium to large breeds (e.g. golden retrievers, Labrador retrievers, boxers, German shepherd dogs). Neoplastic cells synthesize and secrete insulin intermittently, with no regard for the current blood glucose. Clinical signs can therefore be sporadic initially, often resulting in a delayed diagnosis. Diagnosis requires the demonstration of an inappropriately high serum insulin concentration during a period of hypoglycemia. Identification of the tumor(s) by pre-operative imaging can be challenging. Ultrasound and CT are the most typically employed methods but it is not uncommon for these tests to be negative. No curative treatment options exist for canine insulinoma at this time but there are several options to try to achieve short- to medium-term clinical remission. Surgery is the preferred approach initially and surgical exploration can sometimes identify tumors that were missed by other imaging tests. It is suspected that almost all canine insulinomas have metastasized by the time of surgery with the most common sites of metastasis including the liver and local lymph nodes. The aim of surgery should be to remove all gross evidence of disease. If the surgery is successful, the literature suggests that the median survival time ranges anywhere from 1-3.5 years. If/when surgical treatment fails or if the owner elects not to proceed with surgery, medical treatment options include frequent feeding, glucocorticoids, diazoxide, +/- octreotide, streptozocin. I will review the ongoing management of a canine case of insulinoma.