



SURGERY:

Primary Hyperparathyroidism in Dogs

Definition

Primary hyperparathyroidism (PHP) is a disease that results in hypercalcemia. This is most often caused by an autonomously functioning parathyroid gland, but it may also be caused by primary hyperplasia of the parathyroid glands, parathyroid carcinoma, or multiple parathyroid adenomas. The autonomously functioning parathyroid tissue loses the negative feedback response and will not decrease parathyroid hormone (PTH) secretion in the face of elevated calcium concentrations. PTH will increase serum calcium concentrations by increasing resorption from the kidneys, increase absorption from the gut, increase mobilization from the bone, and increase the production of vitamin D precursors.

History

This disease usually affects middle-aged to older dogs with no sex predilection. Historically, clinical signs are most often attributable to hypercalcemia and can be divided into renal and urinary signs, gastrointestinal signs, and neuromuscular signs. More recently with routine geriatric blood chemistry analysis, the diagnosis is often incidental, with no overt clinical signs. The most common clinical signs that have been reported are urinary tract infections and urinary calculi.

Diagnosis

Once hypercalcemia has been detected on the blood chemistry panel, even if only mildly elevated, ionized calcium should be evaluated as this is the biologically active form of calcium in the blood. Other differentials for hypercalcemia that need to be ruled out include renal disease, Addison's disease, vitamin D toxicosis, osteolytic disease, and neoplasia. The chemistry panel can be evaluated for evidence of kidney disease and the phosphorus concentration assessed. Most dogs with PHP will have a low phosphorus concentration. Diagnostics that are performed include rectal exam, thoracic radiographs, and occasionally abdominal ultrasound. Finally, the diagnosis can be confirmed by measuring PTH, and ionized calcium. Dogs with PHP can have a PTH concentration that is within normal limits or elevated, with concurrent hypercalcemia. It is also useful to concurrently measure PTH related protein, which is produced by certain types of neoplasia.

Treatment & Prognosis

Surgical excision of the hyper functional gland is recommended. About 80-90% of dogs will have a single autonomously functioning gland. With surgical removal of all hyper functional tissue, the cure rates are very high, 95%. Many of these dogs are older, but with good pre-operative planning and anesthetic monitoring the patients will recover normally. Unfortunately, medical management is usually not effective and prolonged hypercalcemia does result in kidney damage. Therefore, early surgical intervention will provide the best outcome.

MVS Surgery Experts:

Daniel Degner, DVM, DACVS
Kyle Kerstetter, DVM, DACVS
Jennifer Covey, DVM, DACVS
Kathleen Ham, DVM, DACVS
Susan Hodge, DVM
Jitender Bhandal, DVM

Michigan Veterinary Specialists has board-certified surgeons at the Auburn Hills and Southfield locations. A member of the surgery team is on-call 24/7 to provide consultations to MVS emergency doctors and to perform the emergency services for patients seen by the MVS emergency service. Our surgeons are available for questions and consultations on surgical conditions during the weekdays.

3412 E. Walton Blvd.
Auburn Hills, MI 48326
Ph. (248) 371-3713

LOCATIONS

29080 Inkster Rd.
Southfield, MI 48076
Ph. (248) 354-6660

1425 Michigan St. NE, Ste F
Grand Rapids, MI 49503
(616) 284-5300