Trilostane Effectiveness in Hyperadrenocorticism

Dogs with hyperadrenocorticism (HAC) often have altered calcium metabolism and may have calcification of the skin (calcinosis cutis), perihilar bronchial mineralization, and calcium-containing uroliths. The exact pathophysiologic mechanism is not known. These dogs often have normal total calcium, increased serum phosphates, and increased parathyroid hormone (PTH) when compared with age- and weight-matched controls. Twenty-two dogs were enrolled in this study to determine the effects of treating canine HAC on PTH, calcium, and phosphate concentrations. Pretreatment data were compared with data from age- and weight-matched hospitalized dogs, and posttreatment data were compared with pretreatment data. All of the dogs were treated with trilostane, a 3-β-hydroxysteroid dehydrogenase inhibitor, at doses between 1.5 mg/kg once daily and 15 mg/kg twice daily. Dogs were reassessed frequently, and ACTH-stimulation tests were done. The dose of trilostane was adjusted depending on the clinical response to the drug and ACTH-stimulation test results. The PTH, calcium, and phosphate levels were measured between 109 and 679 days after the start of treatment. The PTH concentration decreased in 18 of 22 dogs but remained above the laboratory reference range in 15 of these dogs. The PTH levels no longer differed significantly from those of controls. Total calcium increased and phosphate decreased significantly after treatment. However, a significant difference in the phosphate concentration between the control group and the posttreatment group remained. These results indicate that adrenal secondary hyperparathyroidism resolves with treatment.

COMMENTARY: The increased PTH concentrations in dogs with HAC may be associated with abnormalities in calcium and phosphate metabolism, and this may explain some of the clinical problems seen in dogs with the disorder, such as calcinosis cutis and calcium oxalate urolithiasis. Controlling HAC may reduce the risk for these aberrations.—Patricia Thomblison, DVM, MS