

Nonsurgical removal of chondroid masses from the guttural pouches of two horses

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A 2-month-old Quarter Horse colt was admitted to the veterinary medical center because of bilateral, intermittent, mucopurulent nasal discharge since birth. The colt had been treated with antimicrobial drugs (penicillin, penicillin-dihydrostreptomycin-dexamethasone-chlorpheniramine,^a trimethoprim-sulfamethoxazole^b) and had responded to each treatment with a reduction in nasal discharge. Nasal discharge resumed, however, after antimicrobial therapy was discontinued.

The colt was alert and had normal temperature, pulse rate, and respiratory rate. Bilateral mucopurulent nasal discharge was observed. Auscultation of both hemithoraces revealed no abnormalities, but when the trachea was auscultated, a fluttering sound suggestive of fluid was heard. Thoracic radiography revealed no abnormalities, but radiography of the skull revealed radiodense material within the guttural pouches.

Mucopurulent exudate was observed at the openings of the guttural pouches and in the proximal trachea during endoscopic examination of the upper airways. Mucopurulent exudate was also observed bilaterally when the endoscope was passed into the guttural pouches. Exudate specimens were collected from each pouch for bacterial culturing, which yielded growth of *Streptococcus zooepidemicus*. The colt was sedated with xylazine (0.5 mg/kg of body weight), and a No. 5 F polypropylene catheter was passed into each guttural pouch. Each guttural pouch was lavaged with 1.5 L of lactated Ringer solution. Chondroid masses were identified when the guttural pouches were reexamined endoscopically. The chondroid masses were 1 to 3 cm in diameter and numbered 10 to 15 in each pouch. Repeated attempts to lavage the chondroid masses from the guttural pouches were unsuccessful. A diathermic snare,^c passed through the biopsy port of

an 11-mm diameter endoscope, was used to repeatedly section each chondroid mass. After the chondroid masses were adequately reduced in size, the snare was removed, and suction was applied through the endoscope's biopsy port with a vacuum pump^d to remove the fragments. Aftercare included daily lavage of each guttural pouch with 1 L of lactated Ringer solution for 3 days and administration of trimethoprim-sulfamethoxazole (30 mg/kg, PO, q 12 h) for 2 weeks. The colt recovered uneventfully.

A 19-month-old female American Miniature Horse was admitted because of nasal discharge of 3 weeks' duration. The filly was alert and had normal temperature, pulse rate, and respiratory rate. Mucopurulent exudate was observed at both nostrils. Auscultation of the thorax and trachea did not reveal abnormalities. Percussion of the frontal sinuses elicited a dull sound and signs of pain from the filly. Results of thoracic radiography were normal, but radiography of the skull revealed radiodense material in the frontal sinuses and in the guttural pouches. Endoscopic examination revealed mucopurulent exudate and chondroid masses in the left guttural pouch.

General anesthesia was induced with xylazine (1.1 mg/kg, IV) and ketamine (2.2 mg/kg, IV) and was maintained with isoflurane in oxygen. With the filly in left lateral recumbency, a 9-mm endoscope and a Chamber catheter were passed through the left nostril into the left guttural pouch. The Chamber catheter was used to stabilize the largest chondroid mass so that a snare could be positioned for dissection. This snare was fashioned by attaching a loop of polypropylene suture material to a strand of 26-gauge stainless steel wire, which was then inserted through the biopsy chamber of the endoscope. The diathermic snare was not used because it was too large to pass through the biopsy chamber of the 9-mm endoscope. After dissection, the chondroid masses were removed by use of a basket-type endoscopic forceps.^d

The frontal sinuses were trephined with a 6.35-mm Steinmann pin. Exudate specimens were

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^aAzimycin, Schering Corp, Kenilworth, NJ.

^bCotrim D.S. (160 mg/800 mg) Lemmon Co, Sellersville, Pa.

^cOlympus Optical Co, Ltd, Irving, Tex.

^dGomco equipment, Chemetron Medical Products, Buffalo, NY.

collected for bacterial culturing, which yielded growth of *Streptococcus zooepidemicus*. Foley catheters were inserted into the horse's sinuses, and 1.5 L of sterile 0.9% NaCl solution containing potassium penicillin (5 million units/L) was lavaged through the sinuses twice daily for 5 days. Procaine penicillin G (20,000 IU/kg) was administered IM twice daily for 14 days. The guttural pouches were free of exudate when reevaluated 14 days later.

The guttural pouches are diverticula of the eustachian tubes.¹ Diseases of the guttural pouches include tympany, empyema, and mycosis.² Empyema is thought to be the most common³ and may develop during a protracted course of respiratory disease. Chondroid masses develop in horses that have a protracted course of guttural pouch empyema. Chondroid masses are firm, ovoid concretions formed from inspissated exudate. Chondroid masses typically cause a chronic nasal discharge, but do not always cause outward evidence of guttural pouch distention.⁴

Empyema in its early stages may resolve with lavage and antimicrobial treatment.¹ For horses in which conservative treatment is not successful, and for horses with chondroid masses, the traditional method of treatment has been surgical drainage of the affected guttural pouch.⁴ The obvious advantages of removing chondroid masses with an endoscopic snare are avoidance of surgical complications (hemorrhage, infection, dehiscence, damage to cranial nerves) and avoidance of the time required for wound healing. Also, chondroid mass removal with a snare minimizes treatment ex-

pense, because gas anesthesia and surgery are not required.

Complications were not encountered with the described snare technique. Potential difficulties with this procedure include inability to enter the affected guttural pouch with the endoscope because of the size of the endoscope or the opening of the guttural pouch, and inability to snare the chondroid masses, because of the number or size of the chondroid masses. A veterinarian with sufficient skill and equipment, however, should be able to remove any chondroid mass that is small enough to pass through the opening of the guttural pouch. Chondroid masses too large to pass through the opening can be sectioned with the snare.

Removal of chondroid masses with an endoscopic snare is a new method of resolving an old problem. It may not be appropriate for every horse, but because it is easily performed and potentially rewarding, the technique should be considered prior to surgical intervention.

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