What Is Your Diagnosis?

In cooperation with

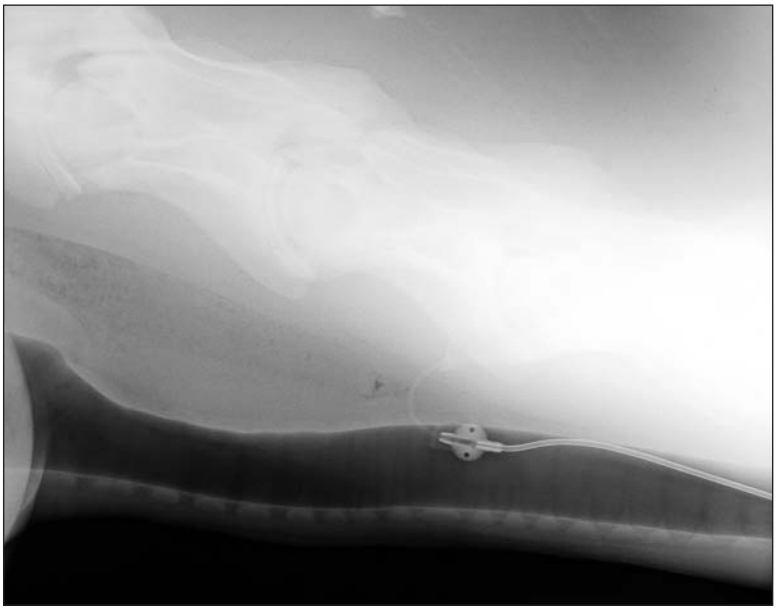

Figure 1—Lateral radiographic view of the cranial portion of the neck of a horse with a several-week history of dysphagia and bilateral nasal discharge containing food.

History

A 2-year-old Standardbred colt was evaluated for bilateral nasal discharge of several months' duration. The trainer had been treating the horse with penicillin but then decided to have the colt evaluated by a veterinarian because of lack of improvement in clinical signs. The trainer also reported that approximately 2 weeks prior to admission, the colt's nasal discharge changed from being mucopurulent to containing food material.

Physical examination revealed a high rectal temperature (39.4°C [102.9°F]) and abnormal respiratory tract signs including coughing and mild dyspnea. The horse had a large swelling on the left cranioventral aspect of the neck that was taut and elastic, but signs of pain were not elicited on palpation. A nasogastric tube could be passed through the esophagus without difficulty.

Hematologic findings included moderate leukocytosis (12,290 WBCs/µL [reference range, 5,500 to 11,000 WBCs/µL]) and mild hyperfibrinogenemia (522 mg/dL [reference range, 100 to 400 mg/dL]). Upper airway endoscopy revealed epiglottic entrapment with a moderately ulcerated aryepiglottic fold. Food-contaminated saliva was observed refluxing out of the esophagus during endoscopic examination.

Esophagoscopy revealed accumulation of food material in the cranial 10 cm, followed by a segment of esophagus that appeared dilated. Esophageal contractions were not seen during the endoscopic evaluation A lateral radiographic view of the cranial portion of the neck was obtained (**Figure 1**).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page →

This report was submitted by Georg F. Rindermann, DVM; Karsten Velde, DVM, DACVS; and Amy D. Nagy, DVM; from the Clinic for Surgery, Ophthalmology and Dentistry, College of Veterinary Medicine, University of Vienna, Veterinärplatz 1, 1210 Wien, Vienna, Austria.
Address correspondence to Dr. Rindermann.

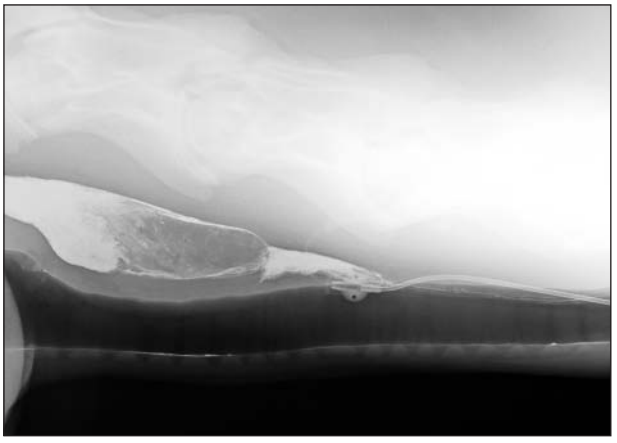

Figure 2—Positive-contrast lateral esophagographic view of the horse in Figure 1. The soft tissue opacity seen in Figure 1 is filled with contrast material cranial and caudal to an area with a relative lack of barium sulphate paste. Notice the characteristic filling defect produced by an intramural mass. Also notice the thin radiodense line within the trachea indicative of aspiration of a small amount of barium sulphate paste.

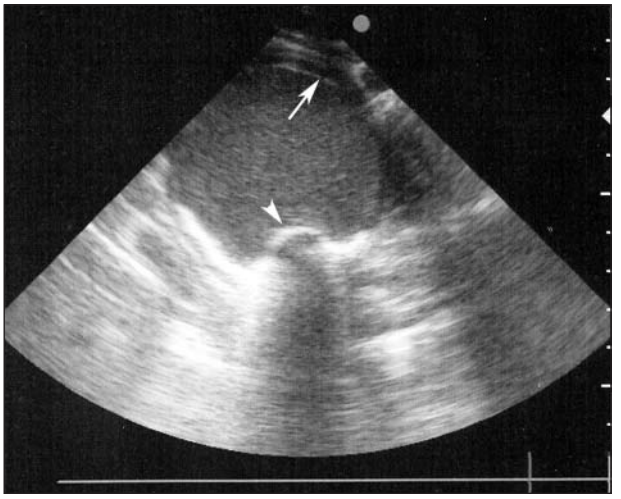

Figure 3—Transverse ultrasonographic image of the cranial portion of the esophagus obtained with a 5.0-MHz sector scanner. Notice the homoechogenic, well-encapsulated (arrow) structure associated with the esophagus and the position of a nasogastric tube within the esophageal lumen (arrowhead).

Diagnostic Imaging Findings and Interpretation

A soft tissue opacity associated with the cranialmost aspect of the esophagus is visible on a lateral radiographic view of the cranial portion of the neck. A positive-contrast esophagogram was obtained after administering barium sulphate paste (**Figure 2**). The contrast study revealed an unequal accumulation of contrast medium in the region of the soft tissue mass seen in Figure 1. Contrast material filled the esophagus cranial and caudal to an area with a relative lack of contrast medium, which was suggestive of a space-occupying mass in close proximity to the esophageal lumen.

Ultrasonography of the cranial portion of the esophagus in which a nasogastric tube had been placed revealed a large, ovoid, well-encapsulated structure containing homoechogenic fluid within the wall of the esophagus (**Figure 3**).

The diagnosis of esophageal cyst was made on the basis of results of esophagography and further confirmed by ultrasonography. Differential diagnoses included esophageal abscess, intramural hematoma, or seroma.

Comments

The owner elected not to pursue treatment for financial reasons, and the horse was euthanatized. Histologic examination of specimens obtained from the horse at necropsy confirmed the diagnosis of an esophageal inclusion cyst. Esophageal cysts are rare congenital malformations in horses, and their embryologic origin must be demonstrated by histologic examination.[1] Cytologic examination of the viscous filling of the cyst revealed desquamated epithelial cells and keratinaceous debris.

The nature of the contents of the cyst explains the rather unusual echogenic ultrasonographic appearance of the mass. Esophageal inclusion cysts are located within the esophageal wall and lined by squamous epithelium. Characteristically, these cysts are not surrounded by a longitudinal and circular esophageal muscle layer of the muscularis propria. This morphologic feature is essential for the distinction between inclusion and duplication cysts.[2] Esophageal duplication cysts can be further subdivided into simple and true duplication cysts, with duplication of the epithelium and submucosa-muscle layers, respectively.

Diagnosis of intramural esophageal cysts requires various diagnostic procedures, including ultrasonography, endoscopy, and contrast radiography.[3] A space-occupying mass within the wall of the esophagus may result in esophageal dysfunction that can lead to reflux of food material into the pharynx after the pharyngeal phase of swallowing and subsequent aspiration of esophageal contents.

Two surgical procedures are described for the management of esophageal cysts in horses, marsupialization of the cyst to the skin with postoperative iodine sclerotherapy or complete surgical removal of the cyst.[4]

1. Sams AE, Weldon AD, Rakestraw P. Surgical treatment of intramural esophageal inclusion cysts in three horses. *Vet Surg* 1993; 22:135–139.
2. Vougiouklakis T, Mitselou A, Dallas P, et al. Inclusion cyst of esophagus: case report and review of the literature. *Exp Oncol* 2003;25:22–24.
3. Orsini JA, Sepesy L, Donawick WJ, et al. Esophageal duplication cyst as a cause of choke in the horse. *J Am Vet Med Assoc* 1988; 193:474–476.
4. Slovis NM, Watson JL, Couto SS. Marsupialization and iodine sclerotherapy of a branchial cyst in a horse. *J Am Vet Med Assoc* 2001;219:338–340.