GUTTURAL POUCH INFECTIONS

By Tom Hutchins, DVM, DABVP

Guttural pouch infections are either introduced directly through the pharyngeal opening or by the lymphatic system. Accumulation of purulent material (empyema or pus) is considered to be a secondary, chronic, localized manifestation of a more generalized ascending respiratory infection. Empyema is usually on one side and is often a sequel to an infectious respiratory disease, especially infection by *Streptococcus equi*. Typically a horse with guttural pouch infections display continued nasal discharge after recovery from streptococcal infection. Rupture of retropharyngeal abscesses into the guttural pouch is known to occur, suggesting that strangles or other upper respiratory tract infections may have an important role in the development of guttural pouch infection in horses.

The clinical signs of guttural pouch infection include intermittent nasal discharge that may worsen when the head is lowered, lymph node swelling, parotid gland inflammation, dysphagia (difficulty swallowing), and difficult breathing. The nasal discharge can be from one or both nostrils, even if only one guttural pouch is affected. The nasal discharge is generally non-odorous, white, and opaque. Signs of dysphagia may be observed secondary to pharyngeal compression. Labored breathing may result from gradual collapse of the pharynx as the pouches distend. The differential diagnosis of guttural pouch infection should include other diseases with purulent nasal discharge such as pneumonia, sinus infection, and upper respiratory tract infection.

There is usually an elevation in the total white blood cell counts as well as fibrinogen. Those changes generally coincide with a fever, and clinical signs of strangles or primary guttural pouch infection. Analysis of fluid obtained from the guttural pouch often reveals a *Streptococcus* species.

Guttural pouch infections should be considered in any horse with a chronic, nonresponsive nasal discharge. Some of the diagnostic tools include radiography, endoscopy, and aspiration of fluid from the pouch. Recognition of a fluid line or masses in the pouch on a radiograph supports the diagnosis of a guttural pouch infection. Endoscopic examination permits identification of the affected pouch and evaluation of the character of the fluid.

Strangles is a common upper respiratory disease affecting young horses. Primary clinical signs of strangles usually develop after a short incubation period of 2-7 days and include depression, fever, coughing, and ocular and nasal discharge that become thicker as the disease progresses. Lymph nodes of the head and neck become enlarged and painful, often forming abscesses. Guttural pouch infections may result from the extension of the upper respiratory infection with *Strep. equi* (strangles) to the guttural pouches or from rupture of retropharyngeal lymph node abscesses into the guttural pouch. Many horses with empyema do not have a history of strangles, and empyema appears to occur by many of the same mechanisms as middle ear infection: that is, fluid accumulates in the area and uncontrolled growth of bacteria normally results in inflammation and discharge.

Treatment of guttural pouch infection is complicated by poor drainage from the affected pouch. In the normal horse, the pharyngeal opening of the guttural pouch is located above and in front of the floor of the pouch. Therefore, drainage can only be achieved by lowering the horse's head. However, in horses with empyema, lowering the head may not facilitate adequate drainage. Inflammation of the lining mucosa may result in swelling of the tissue around the opening of the pouch further compromising normal drainage.

Choice of medical or surgical treatment depends on the duration and nature of the empyema. Antibiotic therapy may reduce the quantity of the nasal discharge, but relapse often follows cessation of treatment. The early stages of empyema may respond to the daily lavage of the affected guttural pouch with saline antibiotic solutions injected through a catheter.

Irrigating the guttural pouch with an indwelling catheter may result in the development of severe inflammatory changes in the guttural pouch. Consideration should be given to using nonirritating solutions to prevent initiating an inflammatory response involving the cranial nerves the course through the base of the guttural pouch.

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Treatment with oral, intramuscular, or intravenous antibiotics and local lavage is successful, but the course of treatment may be prolonged. If the response to treatment is poor or secretions reaccumulate and empyema returns, surgical drainage of the guttural pouch should be considered. Surgery is generally indicated when purulent material becomes inspissated or chondroids have formed.

The prognosis for guttural pouch empyema is generally favorable if it is recognized promptly and treated appropriately.

Tom Hutchins

ABOUT: Tom Hutchins DVM

Silverado Equine Performance, LLC was established in 2013. With 15 years experience in the performance horse industry, Dr. Hutchins' goal was to create a practice that fulfilled a special niche: provide the absolute best care available for each horse with all necessary diagnostic tools available for your equine athlete and be able to bring it to you in the comfort of your farm or stable. The scope of the practice is primarily lameness and sports medicine although other services are available upon request. This allows Dr. Hutchins to stay on the leading edge of performance medicine. It takes a team to keep a finely tuned athlete going, so when necessary, recommendations and referrals to the most qualified professionals for a given condition are made.

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