

Park Veterinary Centre

256 Cassiobury Drive. Watford. Herts. WD17 3PA

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STRANGLES

Strangles is an infectious disease of the lymphnodes of the upper respiratory tract caused by the bacterium *Streptococcus Equi* (Subspecies equi).

CLINICAL SIGNS

The clinical signs are quite often fairly non-specific in the early stages and particularly in the first few cases of an outbreak. They are often similar to other, non sinister, respiratory infections (viral/bacterial):

- Fever (39-41°C).
- Depression (due to headache!).
- Poor appetite. Unwillingness to swallow.
- Enlargement of lymph nodes of head/throat mostly accompanied by abscessation.
- Nasal discharge (muco-purulent). Often bilateral, profuse and yellow.
- Difficulty swallowing or breathing if retro-pharyngeal lymphnodes affected.

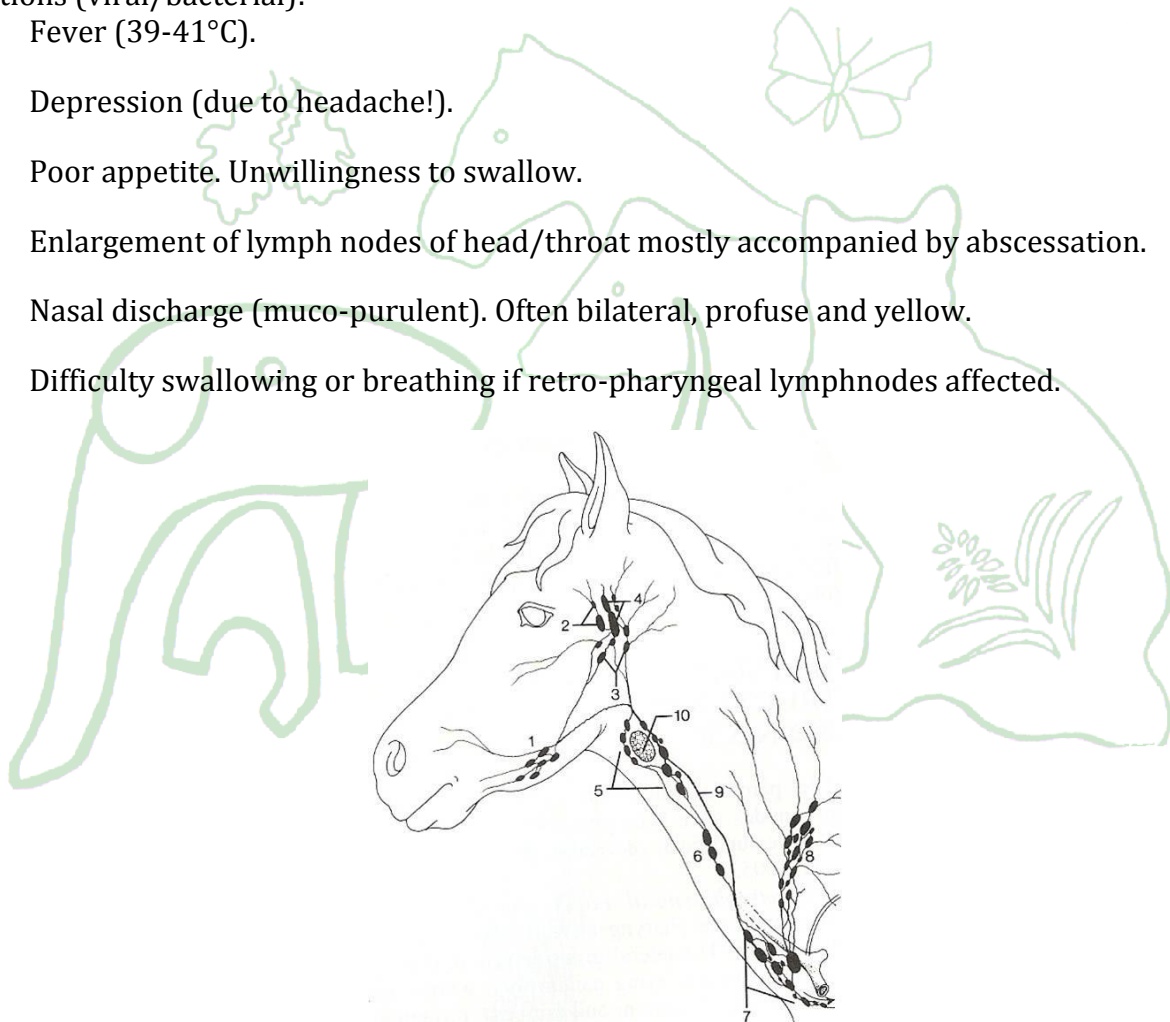


Fig.1. Lymphnodes of the head region. 1: intermandibular lymphnodes. 2: parotid lymphnodes. 3,4: retropharyngeal lymphnodes.



Fig.2. Purulent nasal discharge.



Fig.3. Enlarged intermandibular lymphnodes.



Fig.4. Abscessation of a lymphnode and drainage of purulent material.



Fig.5. Resolving abscesses.

PROGRESSION OF DISEASE

The incubation period (time between infection and appearance of clinical signs) is 3-14 days (usually 1 week). The disease usually resolves shortly after abscessation and drainage of the affected lymph nodes.

COMPLICATIONS

Occasionally (fortunately quite rarely) complications occur, such as “Bastard Strangles” and “Purpura Hemorrhagica”.

“Bastard Strangles” occurs when lymphnodes distant from the head become involved (usually abdominal or pulmonary). This is a serious complication, potentially leading to colic symptoms or even fatal peritonitis (abdominal infection) if an abscess ruptures in the abdominal cavity. If the abscesses are identified on an ultrasonographic examination, a protracted antimicrobial therapy should be attempted.

“Purpura Hemorrhagica” is an immune mediated disease, caused by hypersensitivity to the Streptococcus Equi antigen. It results in a generalised vasculitis (inflammation of blood vessels).

Clinical signs include: edema (swelling) of limbs, abdomen, head, petechial hemorrhage (red spots) of mucous membranes, fever, depression (Fig.6-7).

Treatment should involve an aggressive antibiotic and anti-inflammatory (Steroids-Dexamethasone) therapy.



Fig.6. Petechial hemorrhage in a horse with Purpura Hemorrhagica.



Fig.7. Edema of head, abdomen and limbs in a horse with Purpura Hemorrhagica.

TRANSMISSION

Transmission occurs via direct contact with infected horses and through vectors (people, tools, contaminated feed buckets and water troughs, lorries etc.). The bacterium may survive in the environment, outside the host, for up to six weeks, particularly adjacent to water troughs.

CARRIER

A small proportion of previously infected horses may become “carriers”. These animals are persistently infected with *Streptococcus Equi* for months or years, without showing any obvious clinical signs of the disease. They are immune to re-infection, but they intermittently shed the bacterium, which can then infect naive horses. “Carriers” are probably the most important factor in the persistence of the disease or the reason for an unexplained new outbreak.

Where is *Streptococcus Equi* hiding in carrier horses? Most often pus accumulates in the guttural pouches (diverticulum of the Eustachian tube, see fig.8). The guttural pouches have an opening in the pharynx and the bacterium is shed intermittently from there. If the purulent material persists in the pouches for prolonged periods of time, it will become solid and form little beads (chondroids). The guttural pouches would need to be flushed and cleared in order to free the horse from the state of carrier. Usually an endoscopic examination will be performed in order to visualise the guttural pouches.



Fig.8. Location of the guttural pouch.

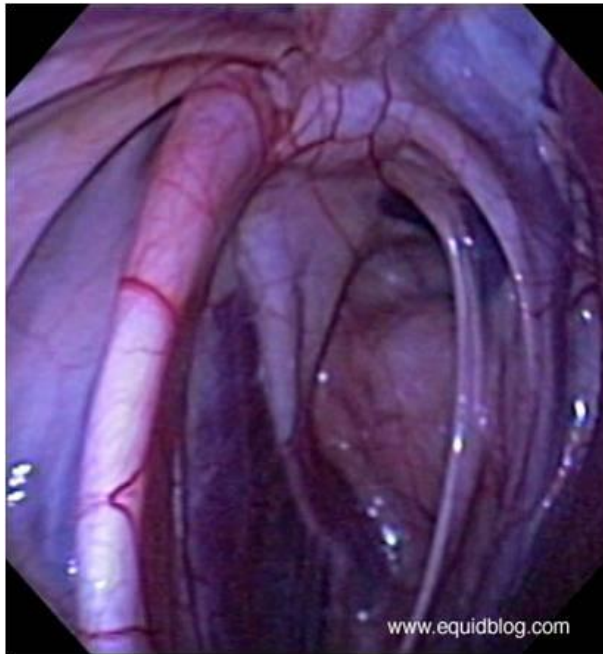


Fig.9. Endoscopic view of a normal guttural pouch.



Fig.10. Chondroids removed from the guttural pouch of a carrier horse.

DIAGNOSIS

Diagnosis is based on clinical signs and laboratory isolation (Bacterial culture and/or PCR) of *S. Equi* from naso-pharyngeal swabs, abscess contents, guttural pouch washes. A blood sample can be taken for identification of Antibodies to *S. Equi* (ELISA test).

Shedding of *S. Equi* in the nasopharynx is intermittent, so repeated swabbing (3 swabs 1 week apart) is recommended to confirm negative results.

Newly exposed horses take up to 2 weeks to develop sufficient antibodies to give a positive result on the ELISA test, so beware of false negative results if the blood sample is taken too early! Also, horses may remain positive for up to six months after recovery (false positives!).

Blood tests are however very useful to detect carriers, that should be then swabbed and/or scoped.

WHAT TO DO? (AFTER PANICKING)

Isolate suspected/confirmed cases

Highest possible standards of hygiene (protective clothing, dips for wheel barrows, boots, etc.)

Monitor clinical signs/temperature of in-contacts

Good practice to stop in/out movements from yard

TREATMENT

Encourage abscessation of affected lymphnodes (hot compresses/ application of magnesium sulphate paste may help)

Lancing mature abscesses, flushing of ruptured abscesses with a diluted iodine solution

Antimicrobial therapy (procaine penicillin) is controversial. Most authors would now agree that antibiotic therapy after abscess formation ultimately prolongs the course of the

disease by delaying maturation of abscesses. Antibiotic therapy is indicated in cases of dyspnea (difficulty breathing), dysphagia (difficulty swallowing), prolonged high fever and severe depression or anorexia. If antibiotics are given the course should be 14-21 days long. Antibiotics can also be administered once the abscesses have burst or have been drained.

Non steroidal anti-inflammatory drugs are usually administered to reduce pain and fever and improve appetite.

RECOVERY AND FREEDOM FROM DISEASE

Shedding of *S. Equi* usually ends rapidly after resolution of clinical signs, but may continue intermittently in some carrier horses for unknown periods of time. No convalescent horse should be considered free from disease until 3 negative nasopharyngeal swabs (1 week apart) have been obtained and/or the horse has been tested negative by guttural pouch endoscopic examination and lavage.

PREVENTION

Isolate new arrivals on yard (monitor temperature/ swelling of lymph glands/nasal discharge) for 2-3 weeks.

A live attenuated vaccine administered by submucosal injection was firstly introduced in the UK in 2005 and subsequently withdrawn. It has been returning to the market in Europe in 2010, with its availability in different countries occurring at different times (not yet available in the UK).

NOTIFICATION

There are no legal notification requirements for Strangles in the UK, although it is advisable to inform the national breeders` associations if infection occurs. Under the rules of training, racehorse trainers are obliged to report likely or confirmed cases to the British Horseracing Authority when it occurs among horses in training.



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