Strangles (Equine distemper)

It's a disease if upper respiratory tract characterized by laryngitis , pharangitis and bronchitis with development or abscesses in regional LN, Its an infectious disease affected Equidae and caused by *Streptococcus equi* a Gram-positive coccobacillus that produces a beta-hemolysin.

Epidemiology….

1- Strangles occurs in horses, donkeys, and mules worldwide

2-Strangles can affect horses of any age, although the morbidity rate is usually greater in younger horses such as foals and weanlings

3-Transmission can occur from infected horses, either directly or by fomites. Nasal and abscess discharge from infected animals That contaminates pasture, tack, stalls, feed and water troughs, grooming equipment, and hands and clothes of grooms and veterinarians is often the source of infection for susceptible horses.

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Pathogenesis ….

1-The bacteria lodge in the pharyngeal and tonsillar lymphoid tissues where they multiply rapidly ,cause inflammation ,edema and abscesses were developed in regional LN. mostly sub maxillary and retropharyngeal LN which may interfere with deglutition and respiration,LN then rupture and drain thick, cream-yellow pus

2-Death is usually occur due to pneumonia caused by aspiration of infected material although other causes of death include asphyxiation secondary to upper airway swelling and impairment of organ function

Clinical findings ….

The disease manifested as an acute disease of varying severity varies with the age and immune status of the animal and characterized by

1-Mucopurulent nasal discharge and abscessation of sub mandibular and retropharyngeal LN. After an incubation period of 1-3 weeks

2- the disease develops suddenly with complete anorexia,depression, fever (39.5-40. C,), a serous nasal discharge, which rapidly becomes copious and purulent, and a severe pharyngitis and laryngitis. Rarely there is a mild conjunctivitis.

3- Lymphadenopathy becomes apparent as the submandibular lymph nodes enlarge and palpation elicits a painful response. The pharyngitis may be so severe that the animal is unable to swallow and there is a soft, moist cough. The head may be extended.

4-The febrile reaction commonly subsides in 2-3 days but returns as the characteristic abscesses develop in the lymph nodes of the throat region. The affected nodes become hot, swollen, and painful. Swelling of the retropharyngeal lymph nodes may cause obstruction of the oro- and nasopharynx with subsequent respiratory distress and dysphagia.
5-Retropharyngeal abscesses may rupture into the guttural pouches, resulting in gutrural pouch empyema.
6-If the infection is particularly severe, many other lymph nodes, including the pharyngeal, submaxillary, parotid others may also affected .
7-Te infection may spread to local lymphatic vessels causing obstructive edema mainly of legs.

Complications….

Complications occur in about 20% of the cases which include

1- Sppurative necrotic bronchopneumonia
2- Gttural pouches empyema
3-Retropharyngeal lymphadenopathy may impair the function of the recurrent laryngeal nerves, with subsequent unilateral or bilateral laryngeal paresis and consequent respiratory distress.

4-Metastatic abscesses may spread to lungs, mesenteric lymph nodes, liver, spleen, kidneys, eyes, joints, and tendon sheaths
5- Purpura hemorrhagica
6-Meningitis due to Metastatic abscesses in the brain
7- Myocarditis some times rarely occur

Clinical pathology…

1-Isolation of the microorganism after Culrure of nasal, pharyngeal, guttural pouch, or abscess discharge
2-Leukocytosis with a neutrophilia
3- Hyperfibrinogenemia

Treatment….

1-Procain penicillin in a dose rate of 22 000 – 25 000 IU / Kg Bw I.M for 3-5 days
2- or potassium or sodium penicillin G (22 000 IU /kg Bw IV 6 h
3-Tetracycline (6.6 mglkg intravenously every 12-24 h)???
4-Sulfadimidine 150-200 mg /kgBw Iv for 3-5 days
5-Ancillary treatment consists of administration of nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce swelling and provide pain relief, application of hot poultices to encourage rupture of abscesses
6- Guttural pouch empyema requires either surgical drainage or repeated flushing of the affected pouch through the pharyngeal openings
7-Treatment of purpura hemorrhagica

Control …..*by*

1- Isolation of infected animal to Prevent the transmission of the disease

2-Cleaning and disinfected of All sources such as grooming brushes, brooms, pails

3-Emergency prophylactic treatment, using injections of benzathine penicillin in foals and yearlings that are most susceptible

4-Vaccination with an M protein extract (commercial vaccine) three times at 2-week intervals reduced the clinical attack rate by 50% in a population of young horses

5-An intranasal vaccine of an a virulent live strain of Streptococcus equi has recently been developed and appears useful.