



Lecture title: Oral and Laryngeal Necrobacillosis

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Summary:

Synonyms: Calf Diphtheria (CD), Oral and Laryngeal Necrobacillosis or دفتيريا العجول.

Definition: Is an infectious disease. There are two forms: oral (which is the most common) and laryngeal. The condition is caused by *Fusobacterium necrophorum*.

History: The disease was first described in 1664

ETIOLOGY

□ *Fusobacterium necrophorum*

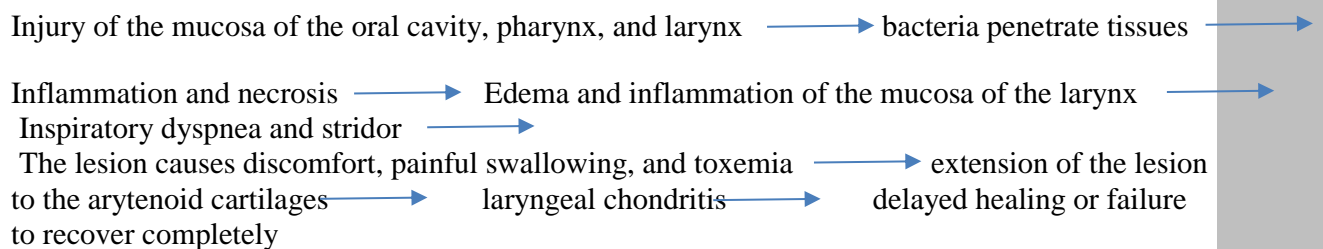
- o Gram-negative, non-spore-forming, rod-shaped anaerobic but aerotolerant organism.
- o Normal inhabitant of the ruminant oral cavity and upper digestive and respiratory tract.
- o Opportunistic pathogen.
- o Virulence factors: endotoxic LPS, leukotoxin (LT) hemolysin, and hemagglutinin.

EPIDEMIOLOGY

- ☒ □ Common in feedlots in yearling cattle.
- ☒ □ Infectious but noncontagious disease.

Pathogenesis:

- ☒ The incubation period is about four days.



I. Oral form

- ☒ Is the most common form and is usually sporadic in occurrence,
- ☒ although there may be outbreaks where hygiene is poor.
- ☒ In such cases, it is probably spread by dirty milk pails, machine teats or feeding containers.
- ☒ Individual cases sometimes occur where fibrous and coarse food is offered.



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- ✖ Although mainly seen in housed calves, it may also occur at pasture.
 - ✖ Affected calves are usually under three months old and often have concurrent disease, nutritional deficiency or erupting teeth.

CLINICAL FINDINGS

- ✖ **A-** The major sign is a swelling of the cheek, particularly in the region of the first cheek tooth.
- ✖ The calf is often bright and active with a normal temperature.
- ✖ Opening the mouth reveals a necrotic swelling in the cheek, which may contain impacted food material, and there may be a foul smell
- ✖ The animal may salivate a little. In a few cases there is also involvement of the tongue, which may become swollen and protrude from the mouth.
- ✖ In neglected cases, lesions may extend to the nasal cavity, pharynx, lungs, abomasum and coronets of the legs.

II- Laryngeal form

- ✖ This form is less common and is sporadic in occurrence. It has been seen in animals around one year old.

Clinical signs

- ✖ These cattle tend to be dull with inappetence or anorexia.
- ✖ Often there is pyrexia (40.5 °C).
- ✖ Respirations are dyspneic to a varying degree.
- ✖ There is a cough that is moist and painful.
- ✖ Palpation of the larynx is resented and can elicit the cough.
- ✖ Painful cough accompanied by severe inspiratory dyspnea that cause a roaring inspiratory sound ("honker calf" or "hard breather").
- ✖ The mouth may be foul smelling.
- ✖ Many of these animals do not respond well to treatment and the diphtheritic area may become detached, resulting in sudden asphyxiation or lung infection.

2. Postmortem lesions

- ✖ Oral lesions are usually well circumscribed with an area of edema and a necrotic center.
- ✖ If the necrotic area is lost, an ulcer is seen



✎ The lesion in the larynx is normally well embedded in the laryngeal cartilage. When lung lesions occur, there are necrotic areas present, surrounded by a catarrhal pneumonia

Diagnosis

- ✎ The main differential diagnoses are foreign bodies in the mouth, papular stomatitis, mouth and jaw injuries and mucosal disease.
- ✎ All are quite easy to rule out by oral examination
- ✎ laryngeal edema, laryngitis and vocal cord paralysis.

Treatment

- ☐ Lesions of necrotic stomatitis will usually heal in a few days following debridement of the ulcers.
- ☐ Application of a solution of tincture of iodine.
- ☐ Oral administration of sulfamethazine at a dose of 150 mg/kg BW daily for 3 to 5 days.
- ☐ Parenteral antimicrobials:
 - Procaine penicillin 22,000 IU/kg IM every 12 h or 44, 000 IU/kg IM every 24 h for at least 7 d
 - Oxytetracycline 10 mg/kg IM every 24h for at least 7 d
 - Ampicillin trihydrate 10 mg/kg SC or IM every 24 h for at least 7 d
 - Ceftiofur hydrochloride 2.2 mg/kg SC or IM every 24 h for at least 7 d
 - Dexamethasone 0.2–0.5 mg/kg IV or IM as a single dose

Control

- ☐ Proper hygienic precautions in calf pens or feeding and drinking places.
- ☐ Avoidance of rough feed.