Taylorella species

●*Taylorella* species are short (0.7 × 0.7 to 1.8 μ m), non - motile, Gram - negative rods, which give positive reactions in catalase, oxidase and phosphatase tests.

●They are microaerophilic, slow - growing and highly fastidious, requiring chocolate agar and 5 to 10% CO 2 for optimal growth. Although the bacteria are not dependent on the X or V growth factors, availability of factor X stimulates growth.

●*Taylorella* species do not grow on MacConkey agar.

●*Taylorella equigenitalis* and the more recently described *Taylorella asinigenitalis* are the only members of the genus.
● The organism is found in the genital tracts of stallions, mares and foals.

●*T. asinigenitalis* can be isolated from the genital tract of donkeys.

Pathogenesis

● Pre - ejaculatory fluid and semen may be contaminated with T. equigenitalis from the urethral fossa After introduction into the uterus, pathogenic organism sreplicate and induce an acute endometritis.

● Initially, mononuclear cell and plasma cell infiltration predominates, a feature rarely observed in acute bacterial endometritis

● Later, migration of neutrophils into the uterine lumen produces a profuse mucopurulent exudate.

● Although the pathogen may persist in the uterus, acute endometrial changes subside within a few days.

Clinical signs

Infected stallions and a minority of infected mares

remain asymptomatic. Most affected mares develop a copious, mucopurulent, vulval discharge without systemic disturbance within a few days of service by acarrier stallion. The discharge may continue for up to 2 weeks and affected mares remain infertile for several weeks. Some mares recover without treatment and up to 25% remain carriers Infection does not induce protective immunity and reinfection can occur.

Contagious e quine metritis

● Contagious equine metritis (CEM) is a highly contagious, localized, venereal disease characterized by mucopurulent vulval discharge and temporary infertility in mares.

● Infected stallions and mares are the main reservoirs of infection.

● Transmission of the bacterium usually occurs during coitus although infection may also be that spontaneous ascending infection in mares is unlikely and that *T. equigenitalis* must be deposited in the uterus for infection to establish

● Foals born to infected dams may acquire infection *in utero* or during parturition. *Taylorella equigenitalis* has been isolated from more than 75% of the offspring of infected mares at 2 to 4 years of age

Diagnostic procedures

●Specimens for bacteriology should be collected before and during the breeding season.

●Swabs from mares should be taken from the clitoral fossa and sinuses and from the endometrium at oestrus using a double - guarded swab

● When taking swabs, disposable gloves should be changed between each animal.

● Foals of infected mares should be sampled before 3 months of age.

●Swabs from stallions and teaser stallions are taken from the urethra, urethral fossa and penile sheath in addition to pre-ejaculatory fluid.

● Swabs must be placed in Amies charcoal transport medium and reach the laboratory within 24 hours of collection.

● Chocolate agar - based media with the addition of amphotericin B, crystal violet and streptomycin are suitable for isolation of the organism. Plates with and without streptomycin should be inoculated as some isolates of *T. equigenitalis* are susceptible to this antibiotic. A medium incorporating Trimethoprim and clindamycin has been developed Inoculated plates are incubated under to 10% CO 2 at 37 ° C for 4 to 7 days.

● Identification criteria for isolates:

- Colonies, which may be visible after 48 hours, are small, smooth and yellowish grey and have an entire edge.
- Reactions in the catalase, oxidase and phosphatase tests are positive.
- A slide agglutination test, using high - titred *T. equigenitalis* antiserum, can be carried out on the culture.
- A fluorescent antibody technique using conjugated serum
- A latex agglutination kit to identify the pathogen is available commercially.

●**Serological tests** including the agglutination, complement fixation and ELISA tests are useful for confirming active or recent infections but do not detect asymptomatic carriers

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● Polymerase chain reaction techniques PCR for detecting *T. equigenitalis* in specimens.

Treatment

Asymptomatic carriers must be treated as well as clinically affected animals. Elimination of *T. equigenitalis* from both mares and stallions can usually be accomplished by washing the external genitalia with a 2% solution of chlorhexidine combined with local application of antimicrobial drugs such as nitrofurazone ,ointment on a daily basis . In addition a daily intrauterine irrigation with antibiotic solution is carried out in mares for 5 to 7 days.