



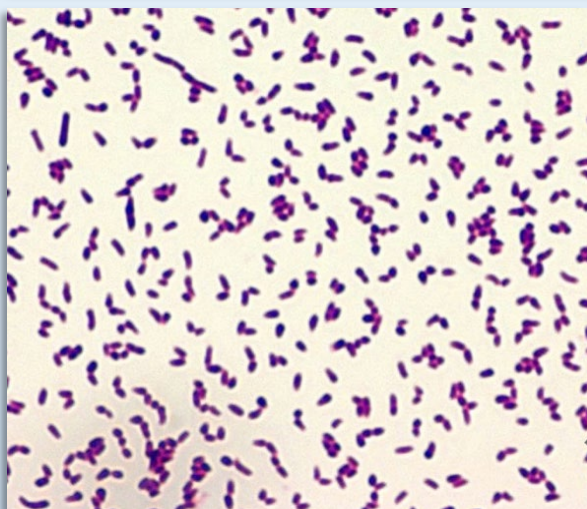
Rhodococcus equi

Previously *Corynebacterium equi*

Family: *Nocardiaceae*

Microbiology

- **Gram positive bacillus.**
- Isolated from soil and water worldwide, and from manure of herbivores.
- **Obligate aerobe.** Non-spore-forming and non-motile.



Microbiology cont.

- **Can appear coccoid or bacillary.**
- Can vary from long, curved, clubs to short filaments and branching.
- Colonies appear **large, irregular, smooth and mucoid.**
- *Classically* appear **salmon pink** in colour, but may take up to 7 days incubation.
- Selective media include CNA, phenyl ethanol agar (PEA) or Ceftazidime-Novobiocin agar.
- **Catalase and Urease positive.**
- Can be **acid-fast** (and be mistaken for mycobacteria)
- **Oxidase negative.**
- Unlike other coryneforms, cannot ferment carbohydrates or liquefy gelatin.
- IDs well on MALDI-TOF or API-Coryne

Antibiotics

- Usually resistant to Penicillins.
- Susceptible to Vancomycin, Erythromycin, Fluoroquinolones, Rifampicin, Linezolid Carbapenems, Aminoglycosides.
- Variable susceptibility to Clindamycin, Tetracycline and Cephalosporins.

Clinical

- Infects a wide variety of animals
- Increasing incidence since 1980s **parallel to HIV, chemotherapy and solid organ transplant.**
- Transmission probably **inhalation of manure-contaminated soil.**
- A **facultative intracellular pathogen**, it infects macrophages. It survives and thrives in the lysosome.
- Most commonly causes a **necrotising pneumonia with cavitations**, reminiscent of TB.
- **Blood cultures are positive** in 50% of people with HIV, 25% solid organ transplant patients.
- Can also present with **subcutaneous, brain or visceral abscesses.** Bacteraemia associated with IV lines.



Management

- **Dual or triple combination therapy is recommended in immunocompromised host** eg: rif plus either macrolide or quinolone.
- Patients should be treated for **2-6 months (risk of relapse with shorter tx).** Imaging should improve before stopping.
- Immunocompromised patients should start with at least 2-3 weeks IV treatment induction.
- After treatment, immunocompromised patients should have **secondary prophylaxis.** Choose an agent with demonstrable in vitro susceptibility that can be tolerated for a long period. Eg Azithro or SXT.

References:

Oxford Handbook of Infectious Diseases and Microbiology. 2nd Edition.

Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases 7th Edition.