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Title: Is doxycycline the right choice to treat an acute respiratory chlamydia psittaci infection?

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Body: Introduction: Although tetracycline has been known as a front-line antibiotic for treatment of Chlamydia infections, information about its efficacy is contradictory. Objectives: The aim of this study was to assess the effects of doxycycline treatment in a bovine model of respiratory Chlamydia psittaci (Cp) infection. To address aspects of both human and veterinary medicine, doses were adjusted to humans and cattle. Animals & Methods: Eighteen calves aged 6-8 weeks were inoculated with Cp as described previously [1]. With appearance of the first clinical signs (about 30 hours after inoculation), doxycycline was applied orally for 13 days (dosis: either 5 mg/kg/day or 10 mg/kg/day). In addition to the two treatment groups (each n=6), six infected calves served as untreated controls. All animals were clinically examined on a daily basis. Broncho-alveolar lavage was performed at days 5 and 9 after inoculation (dpi). At 14 dpi, all animals were sacrificed. Results: Treatment with doxycycline did not improve clinical outcome. In BALF, no significant differences in cytology, total protein or eicosanoids were found between the groups at any time point. At necropsy, neither the percentage of lung affected nor the morphology of pulmonary lesions differed significantly between the groups. Using quantitative real-time PCR, the amount of chlamydial genome copies detected in the affected lung areas did not differ significantly. In conclusion, results do not support the use of doxycycline for successful antimicrobial treatment of acute Chlamydia psittaci infection.
Reference: [1] Reinhold et al. (2012) A bovine model of respiratory Chlamydia psittaci infection: challenge-dose titration. PLoS ONE 7, 1:e30125.