

Comparative activity of azithromycin and doxycycline against *Brucella* spp. infection in mic

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The activities of a short therapeutic regimen with azithromycin and the classic treatment doxycycline with streptomycin were compared and evaluated in mice infected with *Brucella melitensis*. In a chronic model, starting therapy 31 days after challenge, azithromycin (10 days, 50 mg/kg/day) significantly reduced the infection (2.9 logs, day 48 post-infection). The effectiveness of doxycycline (21 days, 50 mg/kg/12 hourly) was greater than azithromycin (4.1 logs of reduction, day 48 post-infection), and

when doxycycline was administered for a period of 45 days, all the animals were bacteriologically cured from day 78. The combination with streptomycin (14 days, 10 mg/kg/day) did not improve the effect of any of the regimens. In an acute model infection, treatments with doxycycline or doxycycline-streptomycin, for a period of 3 days, starting 1 day after lethal challenge, were able to protect all the mice. In contrast, only 50% of the mice treated with azithromycin survived the challenge. In conclusion, although a short oral treatment with azithromycin was able to reduce the infection significantly, it was not able to cure the animals as effectively as the classic regimen with doxycycline administered for a longer period of time.

Antibiotic treatment induces an increase of the specific antibody levels in *Brucella melitensis* infected mice

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The effects of doxycycline (DOX) and streptomycin (SM) treatment of *Brucella melitensis* infected mice on humoral immune response were examined. In female BALB/c mice, DOX was administered at a dose of 50 mg/kg/12 h, for 21 or 45 consecutive days, al-

ne or combined with SM (10 mg/kg/12 h) for 14 days. All treatments induced a significant increase in specific IgG levels (ELISA and CIEP) against LPS and cytosolic antigens of *Brucella* during treatment. This was not related with therapeutic failure or relapse since all treatments induced a significant reduction in the degree of infection.

Key words

Brucella; Immunoglobulin; Doxycycline; Streptomycin