



Antimicrobial susceptibility testing of *Mannheimia haemolytica* and *Pasteurella multocida* isolated from calves with dairy calf pneumonia

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ABSTRACT

This study evaluated the nasopharyngeal microbial flora and antimicrobial susceptibility patterns of the one hundred and thirty Holstein calves with dairy calf pneumonia from dairy farms of Mashhad Suburb between September 2002 and August 2003. The most common micro-organisms isolated were *Pasteurella multocida* 80 (61.54%), *Mannheimia haemolytica* 41 (31.54%), *Bacillus sp.* 15 (11.54%), *Staphylococcus sp.* 3 (2.31%), *Streptococcus sp.* 4 (3.08%), *Pseudomonas sp.* 3 (2.31%), *Proteus sp.* 3 (2.31%) and *E coli* 5 (3.84%). Antimicrobial susceptibility testing was performed on all *M. haemolytica* and *P. multocida* employing the disk diffusion method (Kirby-Bauer). Each strain was tested with 10 antimicrobial agents. With 7 (17.08%), 6 (14.63%), 4 (9.75%) and 1 (2.44%) of *M. haemolytica* were resistant to lincomycin, gentamicin, oxytetracycline and chloramphenicol, respectively. However, resistance to penicillin, lincomycin, amoxicillin, gentamicin and oxytetracycline was observed in 10 (12.50%), 6 (7.50%), 6 (7.50%), 5 (6.25%) and 5 (6.25%) of *P. multocida* isolates, respectively. All *M. haemolytica* and *P. multocida* tested were found susceptible to florfenicol and cephalothin. The results show the need for local veterinarians and producers to be more responsible in the use of antibiotics in the treatment of pneumonia in calves, and growing danger of the dissemination of strains of *M. haemolytica* or *P. multocida* resistant to most antimicrobials which could complicate in the future the treatment of pneumonia in these animals.

Keywords: Antimicrobial resistance, dairy calf pneumonia, *Mannheimia haemolytica*, *Pasteurella multocida*

INTRODUCTION

Bovine respiratory disease (BRD) is a major cause of morbidity and mortality in the cattle industry in

many part of the world (Lillie 1974, Radostits *et al* 2000, Songer 2005). The BRD complex is made up of several clinical syndromes. The most common syndrome in beef cattle is pneumonic pasteurellosis commonly known as shipping fever (Lillie 1974).

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