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TITLE

ANTIMICROBIAL SUSCEPTIBILITY OF FINNISH BRACHYSPIRA PILOSICOLI ISOLATES

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CONTENT

Background and Objectives

Brachyspira pilosicoli is the etiologic agent of porcine colonic spirochetosis, a diarrheal disease in growing pigs. Colitis associated with Brachyspira pilosicoli is less severe than swine dysentery caused by Brachyspira hyodysenteriae, however, antimicrobial therapy is needed on some farms to treat diarrhea in weaners and in young finishing pigs. According to principles of prudent use of antimicrobials, only effective drugs should be used. Resistance to lincomycin and especially to tylosin was very widespread in Finnish Brachyspira pilosicoli isolates already during 1996-1998. Decreased susceptibility to tiamulin was reported in some porcine B. pilosicoli isolates in Finland in the 1990's. This study reports the in vitro susceptibility of Finnish B. pilosicoli isolated from the year 2008 to 2018 (November).

Material & Methods

Altogether 231 B. pilosicoli isolates were obtained from diagnostic samples (porcine faecal samples or intestinal contents) from years 2008-2018. The samples were submitted to the laboratory by herds that were experiencing diarrhoea problems in growing pigs. Minimum inhibitory concentrations (MIC) for tylosin, lincomycin, tiamulin and valnemulin were tested by VetMICBrachy method.

Results

Decreased susceptibility to tylosin was detected in 134 isolates (58,0 %), (MIC > 2 µg/ml) and to lincomycin in 59 isolates (25,5 %)(MIC > 4 µg/ml). In 2017 one isolate had decreased susceptibility to tiamulin (0,4 %)(MIC > 1 µg/ml). All isolates were sensitive to valnemulin (MIC ? 1 µg/ml).

Discussion & Conclusion

The Finnish Brachyspira pilosicoli isolates from years 2008-2018 showed no trend of increased antimicrobial resistance. All isolates were susceptible to valnemulin and all except for one to tiamulin. Widespread tylosin resistance and resistance to lincomycin in many isolates indicates that especially the use of tylosin or lincomycin for treatment of porcine colonic spirochetosis should be based on antimicrobial susceptibility testing of B. pilosicoli recovered from growing pigs with diarrhoea.