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TITLE

SUSCEPTIBILITY OF SRD PATHOGENS COLLECTED IN ITALY TO GAMITHROMYCIN AND OTHER ANTIMICROBIAL SUBSTANCES

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CONTENT

Background

To maximize treatment efficacy, prudent use of antibiotics requires susceptibility testing to justify the antimicrobial substance choice. The present study was conducted to determine the susceptibility of major SRD bacterial respiratory pathogens to gamithromycin as well as other prescribed antimicrobials in Italy.

Material and methods

Three diagnostic laboratories located in the most important swine-producing areas in Italy participated to the study. A total of 40 *Pasteurella multocida* (Pm), 34 *Actinobacillus pleuropneumoniae* (App), 10 *Bordetella bronchiseptica* (Bb) and 5 *Haemophilus parasuis* (Hps) strains, isolated from pig pathological samples, were tested by microbroth dilution method as per CLSI recommendations. The same reagents including microdilution plates and growth medium batch were used in the three labs. Susceptibility to gamithromycin tests were duplicated using disk diffusion technique. Results were interpreted using CLSI resistance breakpoints where available.

Results

Gamithromycin MIC₅₀ and MIC₉₀ against App were respectively 4.0 and 8.0 µg/mL. Only 2/34 (6%) isolates showed an elevated MIC value of 32 µg/mL or higher. Susceptibility of the 34 App were 74% for tilmicosin, 76% for tulathromycin and 94% for florfenicol. The two isolates with elevated MIC to gamithromycin were resistant to the other tested macrolides.

Low gamithromycin MIC values of maximum of 4.0 mg/L were determined for Pm, Bb and Hps isolates.

Susceptibility of Pm, Bb, Hps to tilmicosin (excluding Bb), tulathromycin and florfenicol was very high (98%-100%) as well.

Resistance rate of App and Pm to tetracycline was respectively 56% and 35%.

The correlation observed between MIC values and inhibition diameters allowed to consider good agreement between the two techniques for diagnostic purpose: The App isolates showing the most elevated MICs showed the lowest inhibition diameters. None showed an elevated MIC and a large inhibition diameter.

Conclusion

This study confirmed, under Italian field conditions, the susceptibility values of SRD pathogens to gamithromycin.