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P27: Studies on potential agents of mastitis in udders from small ruminants regularly slaughtered in Piemonte Region, North-Western Italy (part II): evaluation of antimicrobial resistance

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Background

Antimicrobial therapy continues to play an important role in the control of clinical and subclinical mastitis in sheep and goats. Currently there are few reports on the extent of antimicrobial resistance of pathogenic bacteria isolated directly from udders of small ruminants in North-Western Italy.

Objective

To evaluate the antimicrobial resistance of pathogens isolated from mammary glands of goats and sheep collected from animals regularly slaughtered in Piemonte Region.

Materials and Methods

A total of 123 pathogenic bacteria strains were examined by disc diffusion method (in accordance to current EUCAST guidelines) to evaluate their resistance to 11 antimicrobial agents frequently used in mastitis therapy. Ninety-nine strains were isolated from udders with macroscopical signs of mastitis (MM group; 28 sheep and 34 goats) and 24 from apparently healthy udders (MH group; 13 sheep and 4 goats).

Results

Bacteria species from the MM group were respectively: *Staphylococcus aureus* (23.2%); Coagulase-Negative-*Staphylococci* (CNS) (41.4%); *Corynebacterium* spp. (10.1%); *Streptococcus agalactiae* and *S.uberis* (8.1%); *Treuperella pyogenes* (7.1%); *Escherichia coli* (6.1%) and "other bacteria" (4%). In MH group, the majority of isolates were: CNS (79.2%); *S.uberis* (12.5%); *E.coli* (8.3%). The isolates from MM group (41%) and MH group (37%) were multi-drug resistant (MDR). In particular, a high level of resistance was observed to fluoroquinolones, tetracyclines and penicillins.

Discussion and Conclusion

A high degree of antibiotic resistance in both MM and MH groups was observed in strains collected from sheep; conversely, in goats, this association was detected only in the MM group. The high number of CNS and MDR strains from both MM and MH may play an important role in the dissemination of antimicrobial resistance. Antibiotic resistance in bacteria, causative agents of mastitis, isolated from macroscopically healthy udders is reported here for the first time in North-Western Italy.

Perspectives

Since multi-drug resistance is a challenging public health issue, the authors deem it interesting to perform further studies.