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ABSTRACT BOOK

178 - Occurrence of ESKAPE bacteria in healthy cattle population and the related zoonotic risk

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Occurrence of ESKAPE bacteria in healthy cattle population and the related zoonotic risk

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1. Introduction Antimicrobial-resistant ESKAPE bacteria (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacter* species) represent a global threat to human health. Since the role of healthy and/or asymptomatic animals as carrier of ESKAPE opportunistic bacteria is less investigated, we aimed at collecting data regarding the occurrence of the ESKAPE isolates in healthy cattle population, evaluating their antimicrobial resistant profiles.

2. Materials and Methods A prospective epidemiological study was carried out in dairy farms on 180 bovine ocular, nasal, auricular, oral swabs, milk and faecal samples. Standard cultures on nutritive and selective agar media were performed and bacterial colonies were identified by MALDI-TOF MS. Susceptibility of ESKAPE strains to a panel of 30 different antibiotics belonging to 17 classes was evaluated by Kirby-Bauer and E-test methods (EUCAST, 2023). As suggested by Magiorakos et al. (2012), multidrug-resistant (MDR), extensively drug-resistant (XDR) and pandrug-resistant (PDR) isolates were defined.

3. Results *Enterococcus faecium* (n=17), *Staphylococcus aureus* (n=5), *Klebsiella pneumoniae* ssp. *pneumoniae* and *Klebsiella pneumoniae* ssp. *ozaenae* (n=15), *Acinetobacter baumannii* (n=7), *Pseudomonas aeruginosa* (n=7), and *Enterobacter cloacae* (n=12) were identified. The ESKAPE bacteria resulted susceptible to carbapenems, except *P. aeruginosa* strains, to polymyxins, sulphonamides, aminoglycosides, glycopeptides (vancomycin and teicoplanin), and *S. aureus* to β -lactams. No PDR strains were recorded, while XDR (28.6%, n=63) and MDR (68.2%) were observed with resistance towards cephalosporins (92.1%), monobactams (57.1%), fluoroquinolones (55.5%) and tetracyclines (38.1%). Nose and mouth of healthy cattle represent the anatomical sites at major zoonotic risk (RR=28.55; AR=0.93) for *A. baumannii*, *K. pneumoniae*, *E. cloacae*.

4. Discussion and Conclusions The obtained preliminary data contribute to acquire epidemiological informations about ESKAPE pathogens spread from healthy cattle population and to coordinate antimicrobial resistance surveillance in a One Health approach.