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Methicillin-resistant *Staphylococcus pseudintermedius* and *Staphylococcus aureus* in dogs and cats: isolation rates from different clinical conditions

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Methicillin-resistant *Staphylococcus pseudintermedius* (MRSP) and *Staphylococcus aureus* (MRSA) are important pathogens in companion animals with implications for both animal and human health due to their zoonotic potential. This retrospective study evaluated MRSP and MRSA presence in samples from animals with various clinical conditions. Bacterial identification was performed by MALDI-TOF, and antimicrobial resistance was assessed via MICs and PCR targeting the *mecA* gene. Clinical conditions were classified using anamnestic data, cytology, or histopathology. Methicillin resistance was detected in 48/128 (37%) *S. pseudintermedius* and 2/9 (22%) *S. aureus*, corresponding to 50/137 (36%) of the total isolates. Particularly, MRS was found in 26/69 (38%) of suspected urinary infections, 8/34 (23%) otitis externa, 8/18 (44%) pyodermitis, and 8/16 (50%) surgical site infections. No statistical association was found between clinical condition and MRS presence. The highest resistance rates were against penicillin (84%), erythromycin (55%), clindamycin (46%), enrofloxacin (37%), marbofloxacin (37%), doxycycline (37%), pradofloxacin (36%), oxacillin (36%), trimethoprim/sulfamethoxazole (34%), chloramphenicol (31%), gentamicin (25%), and 1% for amikacin, nitrofurantoin, and florfenicol. Our findings indicate a high prevalence of MRS across clinical conditions, suggesting that methicillin resistance should always be suspected in clinical practice.

Keywords

Methicillin-resistance, *Staphylococcus aureus*, *Staphylococcus pseudintermedius*, Companion animals

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