

Phenotypic and genotypic characterization of methicillin-resistant *Staphylococcus aureus* (MRSA) isolated from dogs and cats at University Veterinary Hospital, Universiti Putra Malaysia.

ABSTRACT

Methicillin-resistant *Staphylococcus aureus* (MRSA) is known to cause nosocomial infections and is now becoming an emerging problem in veterinary medicine. The objective of the study was to determine the presence of MRSA in 100 cats and dogs sampled between November 2007 and April 2008 at the University Veterinary Hospital, Universiti Putra Malaysia. MRSA was detected in 8% of pets sampled. Ten percent (5/50) and 6% (3/50) of the isolates were from dogs and cats, respectively. All MRSA isolates possessed the *mecA* gene and were found to be resistant to at least three antimicrobials with a minimum of Oxacillin MIC of 8 µg/mL. One isolate (CT04) had an extremely high MIC of >256 µg/mL. The MLST type ST59 found in this study have been reported earlier from Singapore and other countries as a strain from animal and community-associated MRSA respectively. Pulsed-field gel electrophoresis revealed five pulsotypes. Two isolates from cats (CT27 and CT33) and three isolates from dogs (DG16, DG20, and DG49) were respectively assigned to pulsotypes B and D. The study suggests that cats and dogs in Malaysia are potential reservoirs for MRSA.

Keyword: Methicillin-resistant *Staphylococcus aureus*; Nosocomial infections; Cats; Dogs.