Prevalence and Antimicrobial Resistance of Staphylococcus intermedius Group (SIG) Isolated from Skin Lesions of Dogs in Thailand

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Keywords: antimicrobial resistance, dogs, skin lesions, Staphylococcus intermedius Group (SIG)

Introduction and Objectives
Several documents report that the Staphylococcus intermedius group (SIG), which consist of S. intermedius, S. pseudintermedius, and S. delphini, are the main pathogens causing bacterial skin diseases in dogs (3-5). Most of the documents show that S. intermedius isolated from dogs are resistant to beta-lactams, chloramphenicol, aminoglycosides, tetracyclines and fluoroquinolones but not found to be resistant to cephalosporins, amoxycillin-clavulanate oxacillin and sulfamethoxazoltrimethoprim (3, 4, 6). Cephalosporins are the drug of choices for treatment of bacterial skin diseases of dogs in Thailand. However, non-prudent using of antimicrobial drugs may develop antimicrobial resistant bacteria in animal and can transfer the resistance to other bacteria in human (4). The objective of this research is to study the prevalence and antimicrobial resistance of SIG isolated from skin lesions of dogs in Thailand. This information will be useful for Thai Veterinary practitioners for the control and treatment of SIG infected skin of dogs.

Materials and Methods
Isolation of bacteria from samples taken from skin lesions of dogs entering the small animal veterinary teaching hospital, Chulalongkorn University, Thailand in year 2005-2006. The isolated bacteria was identified based on the phenotypic properties. However, the method could not identify species of SIG (1, 5). Subsequently, calculation of the prevalence of SIG was done. The antimicrobial susceptibility testing of SIG to 14 antimicrobial drugs (cefotaxime sodium, ceftriazone, aztreonam, cefpodoxime, cephalexin, enrofloxacin, ciprofloxacin, ampicillin, amoxycillin, sulfamethoxazoltrimethoprim, doxycycline, gentamicin, chloramphenicol) was performed by standard disc diffusion method (2).

Results and Discussion
Six genus of bacteria (n=54) were isolated and identified from dog skin lesions. The most common isolated bacteria was SIG (46.3%) which similar to other reports. (3-5). The antimicrobial susceptibility test of 25 isolates of SIG to all antimicrobial agents show that all of isolates were resistant to at least one kind of antimicrobial agent. The isolated SIGs demonstrated the highest degree of resistance to aztreonam (76.7%). Additionally, isolated SIGs resisted amoxycillin (68.7%), ampicillin (64%) enrofloxacin (24%) and ciprofloxacin (16%). Resistance of SIG to cephalosporins revealed a broad range from 13.3-76.7%. The results reveal that isolated SIG resists to several types of cephalosporins, whereas no reports of cephalosporins resistant SIG from other reports (3, 5).

References
2. CLSI, 2007 antimicrobial susceptibility testing standards M2-A9 and M7-A7.