

Chakrabhandhu Pimarn 2013: Detection and Phenotypic Characterization of Vancomycin-Resistant Enterococci in Pigs. Master of Science (Veterinary Microbiology), Major Field: Veterinary Microbiology, Department of Veterinary Microbiology and Immunology. Thesis Advisor: Mrs. Chantima Pruksakorn, Ph.D. 157 pages.

A cross-sectional study was performed to characterize vancomycin-resistant enterococci (VRE) in fecal samples of suckling pigs, fattening pigs and breeding sows from 4 farms of the Central Region, Thailand. A total of 179 rectal swabs were screened for VRE by plating on bile-esculin azide selective agars supplemented with 6 µg/ml vancomycin. All collective isolates were identified into the genus and species levels by biochemical tests. Antimicrobial susceptibility was tested by the disc diffusion and agar dilution techniques. Of the 179 samples, 43 samples were VIRE (24.02%) with MICs ranging from 8-16 µg/ml. VIRE were found in 12 of 61 (19.67%) suckling pigs, 15 of 60 (25%) fattening pigs and 16 of 58 (27.59%) breeding sows. There were no significant differences in prevalence of VIRE in each age group. Of 52 VIRE isolates, VIRE were resistant to tetracycline 86.54%, erythromycin 61.54%, ampicillin 53.85%, chloramphenicol 34.62%, ciprofloxacin 32.69%, gentamicin (high level) 15.38%, quinupristin-dalfopristin 13.46%, linezolid 11.54%, streptomycin (high level) 11.54%, rifampin 9.62%, fosfomycin 3.8% and nitrofurantoin 1.92%, respectively. All isolates were susceptible to teicoplanin. A total of 47 in 52 (90.38%) VIRE isolates were MLS_B phenotype. Among the VIRE strains, the prevalence of *Enterococcus gallinarum* was 71.15%, *E. casseliflavus* was 21.15% and unidentified species was 7.69%. In conclusion, pigs are reservoirs of vancomycin-resistant *E. gallinarum* and *E. casseliflavus* VanC phenotype.

Student's signature

Thesis Advisor's signature