Virulence associated gene profiling and serotypes of *Streptococcus suis* isolated from pigs and human in Thailand

Supansa Junya¹, Roongroje Thanawongnuwech², Prasit Tharavichitkul³, Kanreuthai Wongsawan¹, Nattawooti Sthitmatee¹, Pawin Padungtod⁴

¹ Department of Veterinary Bioscience and Veterinary Public Health, Faculty of Veterinary Medicine, Chiang Mai University
² Department of Pathology, Faculty of Veterinary Science, Chulalongkorn University
³ Department of Microbiology, Faculty of Medicine, Chiang Mai University
⁴ FAO Regional Office for Asia and the Pacific

Abstract This research aims to compare the virulence associated gene profiling of *Streptococcus suis* isolated among healthy pig 28 isolates, clinical pig 10 isolates and patient 20 isolates. *S. suis* isolates were serotyped and detected virulence associated gene profiling (epf, mrp and sly) by the multiplex PCR method. The results showed that only serotype 2 were detected in patients and can be detected in healthy pigs (42.86 %) which was much more than clinical pigs (10 %) (p=0.06). This indicates that pork consumers from healthy pigs without clinical signs have increased the risk of *S. suis* infection from healthy pigs. The results of virulence associated gene profiling of *S. suis* showed that *epf* + *mrp* + *sly* genotype was detected from the healthy pigs (57.14 %), clinical pigs (80 %) and patients (100 %). This genotype was obtained from clinical pigs much more than healthy pigs (p=0.18). However, the study shows that probability of *S. suis* serotype 2 with *epf* + was detected in healthy pigs were 0.245 and clinical pigs were 0.08, which may indicate that people have the probability to infect *S. suis* serotype 2 with *epf* + from healthy pigs much more than clinical pigs.

Keywords : *Streptococcus suis*, pigs, patients, Virulence associated gene profiling, multiplex PCR