

P1664

Poster Session VI

Zoonotic antimicrobial resistance

MICROBIOLOGICAL AND MOLECULAR ANALYSIS OF HUMAN INVASIVE STREPTOCOCCUS SUIIS ISOLATES.

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Objectives:

The aim of this work was to perform molecular and microbiological analyses of *Streptococcus suis* isolates from human invasive diseases in Poland.

Methods:

The studied group comprised 25 *S. suis* isolates from invasive infections (18 and 7 isolates from CSF and blood, respectively) from 20 patients, collected during 2000-2013, which were examined by hemolysis assay on horse blood agar plates, biofilm formation in microtiter plates, susceptibility testing as well as by molecular methods, such as multilocus sequence typing (MLST), pulsed-field gel electrophoresis (PFGE) typing and analysis of the presence of potential virulence factors genes and antibiotics resistance genes by PCR.

Results:

All 25 *S. suis* strains represented serotype 2 and belonged to ST1 in MLST. Pulsed-field gel electrophoresis typing revealed high similarity of isolates. Virulence factor genes, including *sly*, *eno*, *fbpS*, *mrp*, *sao*, *epf* were ubiquitous in the analyzed group. Analysis of the presence of putative four pilus gene clusters classified all the isolates into the genotype A (i.e., positive for clusters *srtBCD* and *srtF*). None of isolates harbored the 89K pathogenicity island (89K PAI). A few isolates were able to form a weak biofilm and the majority of isolates showed a strong hemolytic activity. All isolates were penicillin-susceptible. Six isolates were resistant to erythromycin and tetracycline and all these contained the *ermB* and *tetO* genes.

Conclusions:

Analysis of human *S. suis* invasive isolates revealed their high similarity and good susceptibility to antimicrobials.