

COMPARISON OF ANTIMICROBIAL RESISTANCE AND BIOFILM FORMATION OF *YERSINIA ENTEROCOLITICA* 4/O:3 STRAINS ISOLATED FROM PIG PRODUCTION CHAIN AND PATIENTS CLINICAL SPECIMENS

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Abstract. The aim of the present work was to compare the biofilm formation and resistance of *Y. enterocolitica* 4/O:3 strains isolated from pig production chain and patients clinical specimens to five antimicrobials (minimum inhibitory concentration). Bacteria with different PFGE genotypes were selected for this study. Eleven *Y. enterocolitica* 4/O:3 strains from pig production chain and eight strains from patients stool clinical specimens were studied. The results of our study showed that *Y. enterocolitica* 4/O:3 strains isolated from pig production chain and patients stool clinical specimens shared similar antimicrobial resistance. All *Y. enterocolitica* strains tested were resistant to ampicillin and erythromycin, yet susceptible to ciprofloxacin. One and two of 19 tested strains were resistant to streptomycin and tetracycline, respectively. No statistically significant differences ($P < 0.05$) between bacteria genotypes and antimicrobial minimum inhibitory concentration were observed. All tested *Y. enterocolitica* strains formed biofilms, however, no significant difference in biofilm formation was detected between different bacteria genotypes and no correlation between biofilm formation and antimicrobial resistance of different genotypes was observed.

Keywords: *Yersinia enterocolitica* 4/O:3, pig production chain, patients stool clinical specimens, MIC, biofilm.