

Prevalence of campylobacter's at poultry and pork carcass of animals in slaughter house in Serbia and antibiotic resistance

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Introduction: The usage of antimicrobial agents in animal husbandry production can cause significant issue in food safety because it can provoke bacterial resistance. This unwanted features we can find in both pathogenic and commensal bacteria and as such it could be transferred through food production to humans. The antimicrobial drugs are divided in several classes in respect to their chemical structure and mode of action. Sometimes they are in use both in human and veterinary medicine. In regarding of these reasons, we have to survey bacterial resistance from the period of first application of the drugs in the flocks, in the food of animal origin as well as in human medicine during antimicrobial monitoring. Bacteria have possibility to multiply very quickly and they are capable to spread mutated genes by vertical and horizontal transmission in short time. If some antimicrobial agent is routinely in use, it increases selective pressure and target mutations tend to spread and persist through population of bacteria in nature.

Aim: The aim of this study was to evaluate the bacteria which are mutated and became multiple resistant to antimicrobials present serious threat for human and animal health.

Results: Results of our examination are showing that *Campylobacter* spp. could be found in poultry flocks from 20% to 80% and among pigs about 60%. The influence of farm and production management is significant, since in some poultry abattoirs *Campylobacter* spp. was found on 11.43% carcasses and in other even on 90.00% carcasses. Similar situation was found in pig abattoirs. *Campylobacter* spp. isolated from poultry and pigs clinical samples were resistant only to neomycin (8.33%), while the highest sensitivity toward antimicrobials were enrofloxacin (100%), florone (83.33%),

norfloxacin, gentamicine and amoxicillin (58.33%). *Campylobacter* strains isolated from pig samples were resistant to amoxicillin, streptomycin and sulfamethoxazole, while *Campylobacter* strains from poultry carcasses were resistant mostly to trimethoprim 48.734%, ciprofloxacin 46.20%, and amoxicillin 40.51%. Resistance to erythromycin (7.59% strains) has special importance because this antimicrobial is the drug of choice for the treatment of human enteric infection caused by *C. jejuni* and *C. coli*.

Key words: *Campylobacter*, pork, poultry, resistance