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Listeria monocytogenes in retailed raw chicken meat in Turkey

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Statement of the Problem: The objective of this study to find the prevalence and antimicrobial resistance of *L. monocytogenes* from a total of 116 chicken meat samples including 50 carcasses and 66 meat parts marketed in Turkey.

Methodology & Theoretical Orientation: In the study, immunomagnetic separation (IMS) based cultivation technique, to detect the hlyA gene for the verification of the isolates by PCR, and to identify the genoserotypes of the *L. monocytogenes* isolates by multiplex PCR assay. *L. monocytogenes* isolates were also tested for their susceptibility to eight antibiotic (gentamicin, vancomycin, chloramphenicol, streptomycin, tetracycline, ampicillin, penicillin G and erythromycin) agents using the disk diffusion method.

Findings: 51 *L. monocytogenes* colonies were isolated from 34 (29.3%) chicken meat samples (11 [22.0%] carcasses and 23 [34.8%] pieces of meat) by IMS based cultivation technique and confirmed by PCR. According to the multiplex PCR results, all the 51 isolates were identified as genoserotype IIa (1/2a or 3a), 14 isolates (27.45%) were susceptible to all eight antimicrobial drugs tested, and the remaining 37 isolates (72.54%) were resistant to gentamicin (one isolate 1.96), vancomycin (four isolates, 7.84%), penicillin G (six isolates, 1.76%), streptomycin (nine isolates, 17.64%; resistant or intermediate), tetracycline (seven isolates, 13.72%) and ampicillin (six isolates, 11.76%).

Conclusion & Significance: In conclusion, a relatively high prevalence of *L. monocytogenes* was noted and the isolates were characterized sporadic but sometimes epidemic serotypes. IIa in contrast to the most important epidemiological serotypes I. This study results also showed that antimicrobial resistance is not frequent in the isolates. However, we did not detect number of *L. monocytogenes* in analyzed samples. The presence of *L. monocytogenes* in chicken meat is concerning public health risk.

Biography

Belgin Siriken is an expert in Food Microbiology, Safety and Chemical Properties of Particularly Animal Origin Foods. She has completed her PhD at Ankara University, and now she is working as Prof. Dr. at Ondokuz Mayıs University, Samsun, Turkey. Her focus is on Molecular Food Microbiology.

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