❖ **PZ24**

Isolation and detection of salmonella spp. and salmonella enteritidis from broiler carcasses in a poultry abattoir in Mashhad suburb-Iran

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Introduction: Contaminated poultry meat has been identified as one of the principal food borne sources of Salmonella. Conventional culture method for detection of Salmonella requires 4-6 days to processing of samples. PCR has become the potential of a powerful alternative in microbiological diagnostics due to its rapidity and accuracy. In this preliminary study a survey was carried out to determine the prevalence of salmonella spp. and its enteritidis serovar in broiler carcasses.

Matrials and Method: A total of 100 samples, were taken from poultry carcasses which were prepared for packaging at a commercial broiler slaughtering facility in Mashhad, representing 10 broiler flocks, using rinse test method. Samples were taken using cluster sampling method. The presence of salmonella spp. and salmonella enteritidis was assessed by pre-enrichment and enrichment of centrifuged rinsed water. Then DNA was extracted and multiplex PCR was performed by amplification of invA gene which is specific for detection of salmonella spp. and prot6e gene which is specific for detection of salmonella enteritidis.

Results: In this study 14% of poultry carcasses were determined as contaminated with salmonella spp. and 6% as contaminated with salmonella enteritidis.

Conculotion: It is pertinent to use M-PCR in order to provide a more accurate profile of the prevalence of salmonella spp and salmonella enteritidis in broiler carcasses that could be considered as an appropriate alternative to conventional culture method.