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Title:
(A Study on Virulence Genes of Listeria spp. and Escherichia coli Present in Frozen Burger, Fish, Chicken and workers' Hands in Basrah Markets)

Abstract:

This study performed to detect the presence of Escherichia coli and Listeria monocytogenes in frozen meat. A total of 200 samples were collected from Basrah markets in the period extending from September 2015 to March 2016. These samples composed of 50 samples from frozen fish, 50 samples from frozen burger, 50 samples from frozen chicken and (50) swabs from worker's hands.

Molecular techniques (polymerase chain reaction) have been used to evaluate the presence of Listeria monocytogenes thr ough the useing of inlB specific gene. The results indicates that only four samples (7.27%) reflect the presence of Listeria monocytogenes.

While, many techniques were used in this study to detect the presence of Escherichia coli which contaminates the frozen meat, these techniques included the conventional bacteriological methods, identification kit (API 20 E) and molecular techniques (PCR). The results of these techniques indicated that 25 (12.5%) samples were positive to Escherichia coli, according to API 20 E system.

The results of the 25 isolates of Escherichia coli were confirmed by PCR, These isolates were subjected to PCR using sta gene and stb gene coded for heat-stable enterotoxin and lt gene coded for heat-labile enterotoxin and uspA gene coded for universal stress proteins. The results of PCR confirmed that only 16 of these isolates contain sta gene and 5 of these isolates contain uspA gene, The isolates do not contain the gene stb as well as the gene lt. Sequence of uspA gene of E. coli showed 82% homology with E. coli strain FORC 013 and as well as E. coli strain K-12 NEP 5-alpha and E. coli strain MS6198 respectively.