Using of PCR assay for identification of Helicobacter species in hen's eggs

Karima Galal Abdel Hameed and Wallaa Farouk Amin

Abstract:

The prevalence of Helicobacter Species in hens' eggs sold in Assiut and Qena cities, Egypt was determined. A total of 300 hens' eggs were collected from poultry farms and farmers, houses from both cities in which every 5 eggs were represented as one egg pooled sample. Each of egg shell and content was subjected to procedures of isolation of Helicobacter Species followed by PCR assay for the 16S rRNA gene for identification. The obtained results revealed that H. pylori recorded as the highest percentage of contamination (23.33%) followed by H. pullorum (20%). Contamination of egg shells (18.3%) and contents (11.6%) in farmer's houses was higher than poultry farm ones, concluding that egg shell was more subjected to contamination with Helicobacter Species than egg content. All H. pylori and H. pullorum isolates were confirmed by PCR by detection of one PCR product on agarose gel at 109 bp in case of H.pylori and at 477 bp in case of H. pullorum that corresponding to 16S rRNA region of the gene, confirming the specificity of PCR assay for identification of both strains. Regarding the in vitro susceptibility testing, it was found that both strains were sensitive to almost antibiotic used except for ceftriaxone and Sulphamethoxazole +Trimethoprim.

Keywords:

Eggs, Helicobacter spp., Antimicrobial susceptibility, PCR

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