



Clinical and molecular study of *E. coli* O157:H7 isolated from Diarrheic and non-diarrheic dogs

Afaf Abdulrahman Yousif^{1*}; Mustafa Salah Hasan¹ and Mohammad J. Alwan²

¹ Dept. of Internal and Preventive Medicine/College of Veterinary Medicine/ University of Baghdad. ² Dep. of Pathology and Poultry disease, College of Veterinary Medicine/ University of Baghdad

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***Corresponding author:**

Email address:

afaf_a.rahman@yahoo.com

Abstract

A clinical study was performed on 104 dogs and puppies with different ages, breeds and sexes. The molecular study was conducted to confirm *E. coli* O157:H7 which was isolated from these animals using a real-time PCR for detection of rfb O157 and flic H7 genes. Totally, eighty seven *E. coli* isolates were

isolated from 104 fecal samples by the traditional methods of culturing (on initial enrichment media, gram stain and biochemical tests). From 87 *E. coli* isolates, 26 isolates were belonged to *E. coli* O157:H7, when were cultured on specific media the Chrom agar O157. Only 18 (17.3%) isolates were positive for both O157 and H7 antigens, however, only 8 samples were positive to O157 antigen by latex agglutination test. The results of the real time PCR on 26 isolates showed that 7 (26.92%) were having rfb O157 gene, 18 (69.23%) were possessed rfb O157 and flic H7 genes, while only one (3.85%) was negative for both genes. The 18 animals which were positive for bacterial isolation, showed different clinical signs including: fever, increase respiration and heart rates, diarrhea. Dehydration and congested mucous membrane were seen in 11 animals, while the rested 7 animals didn't showed any clinical signs. Females were more susceptible than male for infection with *E. coli* O157:H7. The results of this study showed also that the global breed were more infected than the local breed. In addition, puppies at age 1-2 months were most susceptible. In conclusion, this study reveals that *E. coli* O157:H7 is important pathogen in dogs and the real time PCR is approved as a best, reliable and faster method for confirmatory diagnosis of these strains.

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