

Pathogenicity Testing of Several APEC Isolates Obtained from Naturally Infected Broiler Birds Reared in Basrah

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Abstract :

The present study was conducted to investigate the *in vitro* and *in vivo* virulence of several *E. coli* isolates which have been obtained from naturally infected broiler birds. Fifty seven dead and other morbid birds were collected from Al-Basra markets and Basra Veterinary Hospital. A total of 140 sterile cotton swabs from fibrinous pericarditis, fibrinous perihepatitis and airsacculitis were taken and subjected for bacteriological examinations. The result revealed that the overall identification rate of *E. coli* was (37.5%). To differentiate between pathogenic and nonpathogenic isolates, several *in vitro* and *in vivo* pathogenicity testing were performed. Congo Red binding activity showed that 60% were positive, whereas motility test displayed that 51.85% were motile. The ability of isolated *E. coli* to produce hemolysin was found that 44.6% of these isolates were hemolytic. Hemagglutination test indicated that 3.70% of the present isolates were positive. The results of *in vitro* testing indicated that 3 isolates were classified as highly, moderately and slightly virulent according to their characteristics of pathogenicity. *In vivo*, one day old chick lethality test indicated that almost all the three tested *E. coli* isolates which had been inoculated S/C were caused mortality of these chicks within 12-96 h. Three weeks old broiler birds which have been intratracheally inoculated with *E. coli* were clearly displayed characteristic pathological lesions ranging from typical double sided airsacculitis, fibrinous pericarditis and fibrinous perihepatitis to mild one sided airsacculitis.

Key Word :

Infected broiler birds, airsacculitis, poultry industry

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