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Virulence Genes and Antimicrobial Resistance Profile of *Pasteurella Multocida* Strains Isolated From Buffaloes

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Abstract : Aim: Isolation, identification, antibiogram pattern and PCR for serotyping as well as detection of virulence genes of *Pasteurella multocida* from diseased and apparently healthy animals.

Methods and results: A total of 270samples were collected from clinically healthy (70), and from diseased buffaloes (50) from each were taken nasal and nasopharynx swabs, in addition (30) lung samples were collected from different localities of El-Sharqia province and Cairo abattoir were examined. Forty three isolates of *P. multocida* were recovered. All isolates were found pathogenic to mice by mouse pathogenicity test. Capsular typing of (43) isolates of *P. multocida* revealed that (30) isolates were associated with serogroup A and (13) isolates were identified under serogroup D by multiplex PCR. Antibiogram assay of all the field isolates detected the highest sensitivity to ciprofloxacin, Gentamicin, Ceftriaxone and Cefotaxime *P. multocida* type A was sensitive, while moderate sensitive with Norfloxacin, Enrofloxacin, Ceftazidime, Cefotaxime. (*P. multocida* type D) while sensitive with Flumequine, Cloxacillin, Cefpodoxine, Cephalothin and Ampicillin were resistant. For detection of virulence gene, all isolates were found to be positive for *toxA*(toxigenic) gene by PCR, indicating the isolates as toxigenic while all isolates were negative for *tbpA*(transferrin binding protein encoding) gene.

Conclusion: Due to *Pasteurella multocida* showed increasing level of resistance to the antibiotics, therefore recommended to monitor the antibiotic sensitivity to design the effective regimen for treatment of the disease. This infections with *P.multocida* were the causes of many disease conditions in buffalo in Egypt and were usually present concomitantly with different bacterial agents. Poor environmental conditions probably served as predisposing stress factors that may result in outbreaks among buffalos.

Significance and impact of the study: As all the field isolates were similar in cultural, morphological, biochemical and two capsular typing can be used for development of HS vaccine to control the disease.

Keywords : Buffaloes - *Pasteurella multocida* - Virulence gene - Antimicrobial resistance - toxA - Hemorrhagic septicemia.

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