Cairo University
Faculty of Veterinary Medicine
Department of Microbiology

Bacteriological and Molecular Studies on *Listeria monocytogenes* Isolated from Rabbits

A Thesis Presented
By

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(B.V.Sc., Fac. Vet. Med., Cairo University, 2010)
For the Master Degree
In Veterinary Medical Sciences, Microbiology

Under the supervision of

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Cairo University
Faculty of Veterinary Medicine, Microbiology
(Bacteriology, Immunology and Mycology)
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Supervision sheet

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Abstract

Listeria monocytogenes represent one of the most important pathogens that cause destructive economical losses in rabbit production, which also had gain public health concern as it can cause listeriosis in human. Due to the recent outbreaks, recalls and deaths associated with *Listeria monocytogenes* in rabbit farms affecting the rabbit production in Egypt. The objectives of the present study were to isolate, identificate *L. monocytogenes* using bacteriological examination and confirm the results by PCR and then detection of virulence genes (*prfA, inlA, inlB* and *hlyA*) in the isolated strains. One hundered samples were collected from diseased and apparently health rabbits. Out of 100 teseted samples, 32 samples were positive for *L. monocytogenes* by bacteriological examination, while 54 samples were positive using PCR. Where the best site for isolation of *L. monocytogenes* was from ear swabs (38.8%) then Liver (21.4%) but not detected in bone marrow using both techniques.

Virulence gene in the 54 positive *L. monocytogenes* isolates were detected using selected 4 sets of primers for *inlA, inlB, hylA* and *prfA* genes , 26 samples were positive for *inlA* , 32 samples were positive for *inlB* , 31 samples were positive for *hylA* and 27 samples

were positive for *prfA* by using PCR. Based on the study, PCR technique is more sensitive and rapid comparing to traditional bacteriological methods. In addition that virulence genes studies obtain accurate and specific identification and differentiation among *Listeria spp*. advanced studies should be applied to improve the efficiency of PCR technique for virulence study by complete gene sequence.

Key words: *Listeria monomcytogenes,* Rabbit, isolation , 16sRNA, chromogenic media , and Virulance genes.

This thesis

Is

Dedicated

To

Kamel & Hoda,

Mohammed

&

My little sister Mona

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