



Cairo University
Faculty of Vet. Medicine
Department of Microbiology



Assessment of lactate Dehydrogenase (LDH) and Alkaline Phosphatase (ALP) in Cattle Milk as an Indicator of Subclinical Mastitis

A Thesis Presented by
Hend Mahmoud Ahmed Mohamed Roshdy
B.V.Sc. (2011), Suez Canal University

For the Master Degree in
Veterinary Medical Sciences (M.V.Sc)
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Under supervision of

Prof. Dr. Rafik Tawfik Mohamed Soliman

Professor of Microbiology
Faculty of Veterinary Medicine
Cairo University

Dr. Sherif Abdel Monaem

Assis. Prof. of Microbiology
Faculty of Veterinary Medicine
Cairo University

Dr. George Habib

Chief Researcher, Vacsera
Holding company for vaccine
Ministry of Health

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Faculty of Veterinary Medicine
Department of Microbiology

Approval sheet

This is to certify that the dissertation submitted by **vet/ HEND Mahmoud Ahmed Mohamed Roshdy**, Cairo University, for the Master Degree in Veterinary Medical Sciences, Microbiology department (Bacteriology, Immunology, Mycology) has been approved by the Examining Committee:

- **Prof. Dr. Fawzy Ryad El-Saidy**

Prof. of Microbiology
Faculty of veterinary medicine
Beni-Sweif University

Fawzy El-Saidy

- **Dr. Ahmed Samir Mohamed**

Assistant. Prof. of Microbiology
Faculty of veterinary medicine
Cairo University

A. Samir

- **Prof. Dr. Rafik Tawfik Soliman**

Prof. of Microbiology
Faculty of veterinary medicine
Cairo University
(Supervisor)

R. Soliman

- **Dr. Sherif Abdel Moneam Marouf**

Assistant. Prof. of Microbiology
Faculty of veterinary medicine
Cairo University
(Supervisor)

Sherif Marouf

Date: 28/8/2017

Cairo University
Faculty of Veterinary Medicine
Department of Microbiology

Name : Hend Mahmoud Ahmed Mohamed Roshdy

Degree : M.V.SC. Degree in Veterinary Medical Sciences

Date of birth : 24/6/1989

Department : Microbiology (Bacteriology-Immunology-Mycology)

Title of the thesis: Assessment of lactate Dehydrogenase (LDH) and Alkaline phosphatase (ALP) as an Indicator of subclinical mastitis

Supervisors:

Prof. Dr. Rafik Tawfik Mohamed Soliman

Dr. Sherif Abd El Monaem Maarouf

Dr. George Habib

Abstract:

Subclinical mastitis is a very important health problem affecting dairy cattle. The objective of this study was to evaluate the diagnostic potential of milk LDH and ALP for the diagnosis of subclinical mastitis in dairy cows as compared to SCC, CMT and bacterial examination. A total of 103 milk samples were collected from clinically apparently healthy cows. These samples were examined using SCC, CMT and bacteriological isolation. 64 cows (62.13%) were considered to be affected by subclinical mastitis. The following bacterial species were recovered from these milk samples; *S. aureus* (18.75%), *S. epidermidis* (14.06%), *E. coli* (14.06%), *Klebsiella pneumoniae* (35.93%) and *proteus vulgaris*. (17.18%). The mean activities of LDH and ALP were higher in the milk samples collected from cows with subclinical mastitis and reached to 830.69 ± 161.53 IU/ml and 121.89 ± 23.43 IU/ml, respectively, as compared to the mean activities of these enzymes in the normal group (344.51 ± 385.94) and (57.08 ± 45.12) IU/ml, respectively. The obtained results revealed that the LDH and ALP activities in milk samples are reliable sensitive biomarkers for detection of bovine subclinical mastitis.

Keywords: Bovine subclinical mastitis, SSC, CMT, Milk Lactate dehydrogenase (LDH), alkaline phosphatase (ALP).

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Dedication

*To my beloved mother, father for supporting
me all the way.*

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encouraging, helpful and supportive till the
end.*

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