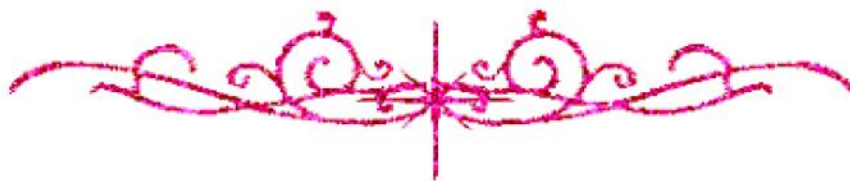


بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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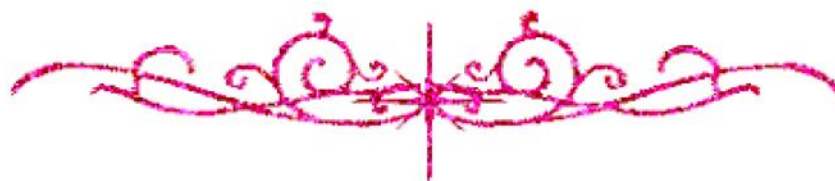


بعض الوثائق الأصلية تالفة





بالرسالة صفحات
لم ترد بالأصل





Cairo University
Faculty of veterinary medicine



Pathological and Immunological Studies on Bacterial Diseases in Oreochromis Fish Species with Emphasis on Vaccination Trials

A Thesis submitted by

Islam Elgohary Ahmed Elgohary

(BVSc, Cairo University, 2011; MVSc, Cairo University, 2016)

For the degree of the Ph.D

Pathology (General, Special and Post mortem)

Under Supervision of

Prof. Dr. Mahmoud Aly Mahmoud Mohamed

Professor of Pathology, Faculty of veterinary
medicine, Cairo university

Prof. Dr. Alaa Eldin Abdel Mouty Eissa

Professor of Aquatic Animal medicine and
managment, Faculty of veterinary
medicine, Cairo university

Dr. Nasser Gamal Eldin Mohamed Fadel

Chief Researcher of Pathology, Animal Health
Research institute, Dokki, Giza

Dr. Jehan Ibrahim Abd Elatif Ibrahim

Senior Researcher of Fish Diseases, Animal
Health Research institute, Dokki, Giza

(2020)



Cairo University
Faculty of Veterinary Medicine
Department of pathology



Supervision sheet

Prof. Dr. Mahmoud Aly Mahmoud Mohamed

Professor of Pathology- Faculty of Veterinary Medicine-
University, Egypt.

Cairo

Prof. Dr. Alaa El Din Abdel Mouty Mohamed Eissa

Professor of Aquatic Animal Medicine and Management - Faculty of
Veterinary Medicine- Cairo University, Egypt.

Dr. Nasser Gamal El Din Mohamed Fadel

Chief Researcher of Pathology Department -Animal Health Research Institute,
El Dokki, Giza, Egypt.

Dr. Jehan Ibrahim Abd Elatif Ibrahim

Senior Researcher of Fish Diseases Department -Animal Health Research
Institute, El Dokki, Giza, Egypt.



Cairo University
Faculty of veterinary medicine
Department of pathology



Name: Islam Elgohary Ahmed Elgohary

Date and place of birth: 21-3-1989, Cairo

Nationality: Egyptian

Title of thesis: " Pathological and Immunological Studies on Bacterial Diseases in Oreochromis Fish Species with Emphasis on Vaccination Trials"

Scientific degree: Doctor of Philosophy (Ph.D)

Supervisors:

Prof. Dr. Mahmoud Aly Mahmoud Mohamed

Professor of Pathology, Faculty of Veterinary Medicine, Cairo University, Egypt.

Prof. Dr. Alaa Eldin Abdel Mouty Mohamed Eissa

Professor of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Cairo University, Egypt.

Dr. Nasser Gamal Eldin Mohamed Fadel

Chief Researcher of Pathology, Animal Health Research Institute, Dokki, Giza, Egypt.

Dr. Jehan Ibrahim Abd Elatif Ibrahim

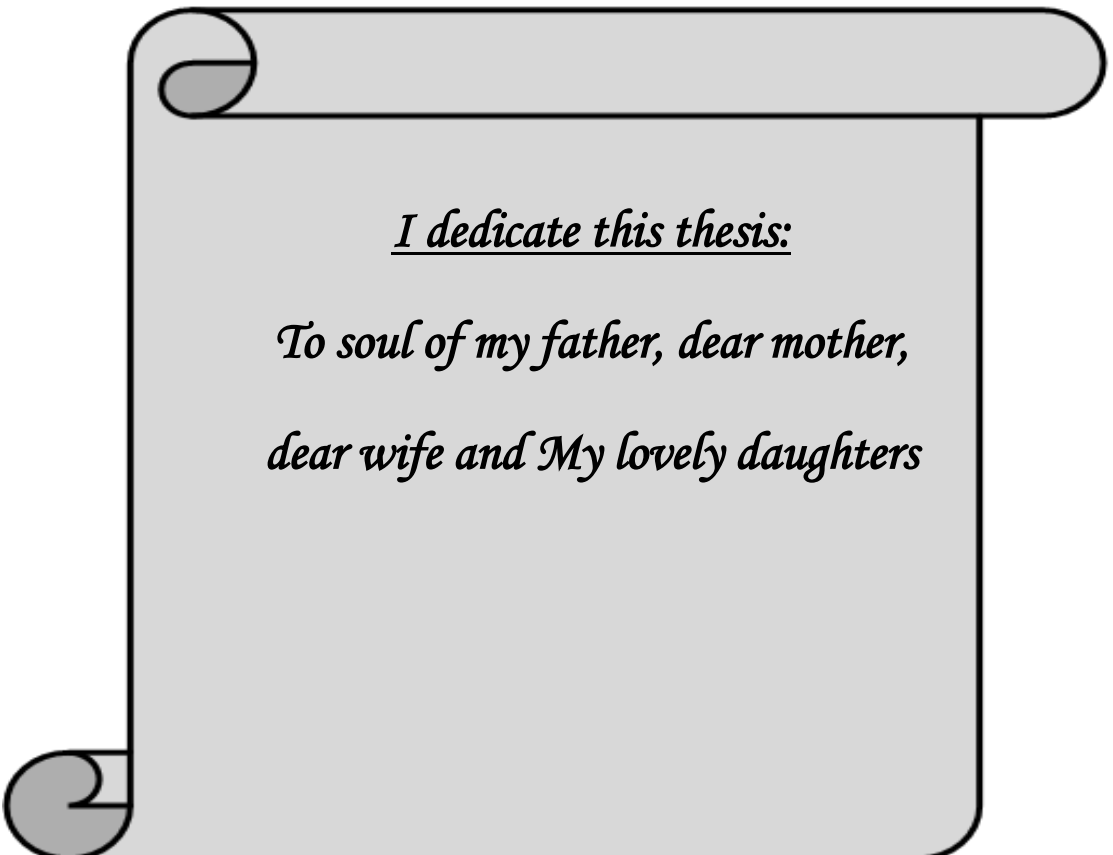
Senior Researcher of Fish diseases, Animal Health Research Institute, Dokki, Giza, Egypt.

Abstract

Our study is divided into two main parts; the first part was a survey for one year and determination the prevalence rate of bacterial microorganisms affecting some fish farms in El fayoum and El sharkia governorates. These farms showed signs of septicemia with a history of 20 -25% recorded mortalities during the period from autumn 2018 to summer 2019. In postmortem examination, the affected fish showed loosed scales, ulceration in the dorsal part of the head, petechial hemorrhages on the body surface, unilateral exophthalmia, and corneal opacity together with congested blood vessels of nearly all fleshy portions of the body fins. Internal examination of the viscera showed congestion of the blood vessels in the kidneys and brain together with dark enlarged spleen while the liver was marbled in appearance. Ninety fish samples (representing 10% of the fishes showing clinical signs) were collected from such fish farms for histopathological and bacteriological examination. *Aerococcus viridans* was isolated from El Fayoum and El Sharkia governorates in rates of 7.7% and 15.9% respectively throughout the year while *Enterococcus faecalis* was isolated with a rate of 34.6 and 39.02 respectively. The prevalence rate of *Aeromonas hydrophila* was

42.3% in El fayoum governorate and 13.4 % in El sharkia governorate while *Vibrio vulnificus* was recorded 0 % in El fayoum governorate and 7.3 % in El sharkia governorate, *Proteus vulgaris* was 3.8 in El fayoum governorate and 12.2% in El sharkia governorate. *Pseudomonas aeruginosa* was 11.5% in El fayoum governorate and 12.2% in El sharkia governorate. The seasonal prevalence rates were analyzed in both locations throughout the year. In antibiotic sensitivity testing, the *A.viridans* and *E.faecalis* showed resistance to ampicillin, oxolinic acid, nalidixic acid, amikacin, and gentamicin but they were sensitive to amoxicillin and nitrofurantoin. *E. faecalis* exhibited resistance to erythromycin and oxytetracycline while *A. viridans* was sensitive to them. Experimental infection and re-isolation of both bacterial isolates in *O. niloticus* was performed to confirm the field isolation and for studying the pathogenicity of such microorganisms in this fish species. The Gram negative bacteria were showing resistance against erythromycin except *Vibrio vulnificus* that showed sensitivity. *Aeromonas hydrophila* and *Proteus vulgaris* showed resistance to colistin sulphate and susceptibility to sulpha-trimethoprine. *Vibrio vulnificus* and *Pseudomonas aeruginosa* showed resistance against sulpha-trimethoprine and sensitive against colistin sulphate. In last decade, because of the bacterial diseases in egyptian farms were recorded ahightly increase in Gram positive bacteria and a new isolates were admitted to aquaculture as result of using agriculture drainage water, so part 2 of our study was directed to experimental design to control newly admitted bacterial diseases by using of formalin killed vaccine against the isolated Gram positive strain in our field study (*A.viridans* and *E.faecalis*). This design were performed by using 84 fish divided in 7 groups (control negative, vaccinated *A.viridans*, vaccinated *E.faecalis*, infected *A.viridans*, infected *E.faecalis*, challenged *A.viridans* and challenged *E.faecalis*); 12 fish / each group. The efficacy of vaccine was evaluated by making WBCs count and lysosome activity which showed marked increase in vaccinated, challenged than in the infected group. The statistical analysis for all parameters used for vaccine evaluation was performed. The parameters included pathological changes, biochemical and hematological aspects as well as immunological aspects to compare between naturally, experimentally infected and vaccinated groups.

Keywords: Bacterial diseases- *O .niloticus* – vaccine – WBCs –lysosome activity



I dedicate this thesis:

*To soul of my father, dear mother,
dear wife and My lovely daughters*

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