بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

Cairo University

Faculty of Veterinary Medicine

Department of Microbiology

Some bacteriological and immunological investigations on *Coxiella burnetii* (Q fever)

A Thesis presented by

Hypy Mahmoud Mahmoud abbass

(B.V.Sc., 2007, M.V.Sc 2014)

Fac. Vet. Med. Cairo University

For degree of Ph.D. (Microbiology)

Under The Supervision of

Prof. Dr. **Salah El Din Abd El karim selim**

Professor of microbiology
Faculty of Veterinary Medicine,
Cairo University.

Prof. Dr. **Mahmoud Dardiri Elhariri**

Professor of microbiology
Faculty of Veterinary Medicine,
Cairo University.

Prof. Dr. **Mona Mohamed Sobhy Gabr**

Research head at Animal Reproduction
Research Institute

Agriculture Research Center

2020

Cairo University

Faculty of veterinary medicine

Microbiology Department

Supervision sheet

Prof. Dr. Salah El Din Abd El karim selim
Professor of microbiology Dept.
Faculty of Veterinary Medicine,
Cairo University.

Prof. Dr.Mahmoud Dardiri Elhariri

professor of microbiology
Faculty of Veterinary Medicine,
Cairo University.

Prof. Dr. Mona Mohamed Sobhy Gabr

Research head at Animal Reproduction

Research Institute

Agriculture Research Center

2020

Cairo University.

Faculty of Veterinary Medicine.

Department of Microbiology.

- Name: Hypy Mahmoud Mahmoud abbass

- Nationality: Egyptian.**Degree:** PhD of Veterinary medical Science.

- **Specialization**: Microbiology.

-Title of thesis:

Some bacteriological and immunological investigations on *Coxiella burnetii* (Qfever)

- Supervisors:

Prof. Dr. Salah El Din Abd El karim selim
Prof.Dr. Mahmoud Dardiri Elhariri

Prof.Dr. Mona Mohamed Sobhy Gabr

Cairo University.
Faculty of Veterinary Medicine.
Department of Microbiology.

- **Name: Hypy Mahmoud Mahmoud abbass**
- **Nationality:** Egyptian.**Degree:** PhD of Veterinary medical Science.
- **Specialization**: Microbiology.
- **Title of thesis:**

Some bacteriological and immunological investigations on *Coxiella burnetii* (Qfever)

- Supervisors:

Prof. Dr. Salah El Din Abd El karim selim
Prof.Dr. Mahmoud Dardiri Elhariri
Prof. Dr. Mona Mohamed Sobhy Gabr

Abstract

Background and Aim: Q fever could be a neglected zoonotic disease caused by the bacteria *Coxiella burnetii*. Very little info is available concerning *C. burnetii* in bovine, sheep and goat infection in Egypt, therefore the objective of this study was to analyze the seroprevalence of *C. burnetii* by IFA and to see the presence of *C. burnetii* DNA in seropositive sera that will contribute to be a supply of transmission of the organism.

Material and methods: blood serum samples were collected from apparently healthy 160 farm animals and 120 patients from three hospitals of the Assiut Governorate throughout 2017/2018 and

investigated for immune serum globulin antibodies against *C. burnetii* phase II antigen by indirect immunofluorescent antibody test (IFAT) and ELISA. Seropositive samples were confirmed by RT-q PCR with specific primers that amplify of *C. burnetii.* Result: The results of IFAT showed that antibodies against *C. burnetii* in bovine were (45.3%) ,sheep (56%),goats (45.7%) and (53.3%)in humans sera (52.1% unknown feverish patients, influenza patients 30.4%,kidney dialysis patients 37.5 %, hepatitis C virus patients 74.1%, hepatitis B virus patients 62.5%). The results by ELISA check in bovine were (50.7%), sheep (60%), goats (51.4%) and (55%) in human sera (54.3% unknown feverish patients ,flu patients 30.4%,kidney dialysis patients 37.5%,hepatitis C virus patients 77.8 %, hepatitis B virus patients 62.5%). RT-qPCR targeting the I*S1111* factor confirmed the presence of *C. burnetii* DNA. Conclusion: These results proved that the apparently healthy bovine, sheep and goats are a very important reservoir of burnetii infection. To our data Q fever influences, the replication of the hepatitis virus continues to be not

understood. We have a tendency to terminate that the apparently healthy bovine, sheep and goats are a very important reservoir of *C. burnetii* infection. Although hepatitis is one in all the main shows of acute Q fever, the influence of hepatitis in Q fever has never been investigated. Q fever| isn't a reportable disease in Egypt and clinical cases most likely unrecognizable by the health system. There is a necessity for info on the epidemiology of *C.burentii* in Egypt additionally as several alternative problems like distribution, pathologic process and molecular typing.

Keywords: Q fever, *Coxiella burnetii*, RT-q PCR, ELISA, IFAT, Hepatitis C and B, apparently healthy farm animals and humans.

Acknowledgment

First of all, I wish to express my sincere thanks to ‘‘Allah’’ for his care and generosity through my life.

I would like to express my sincere appreciation and my deep gratitude to **Prof Dr. Salah El Din Abd El karim selim** Professor of microbiology Dept. Faculty of Veterinary Medicine Cairo University.

Deepest gratitude and thanks go to **Prof. Dr. Mona Mohamed Sobhy Gabr** Animal Reproduction Research Institute Agriculture Research Center

I thank **Prof. Dr. Mahmoud Dardiri Elhariri** professor of microbiology Faculty of Veterinary Medicine, Cairo University.

I thank **Dr.Hanan H. Abd-Elhafeez**, Assistant professor of Microbiology ,Department of Anatomy, Embryology and Histology, Faculty of Veterinary Medicine, Assiut University.

I thank **Dr. Hams Mohamed Ahmed** Assistant professor of Microbiology Faculty of Veterinary Medicine South Valley University.

Lastly, Thanks for all Staff members in the Department of, microbiology Faculty of Veterinary medicine, Cairo University for their support.

Dedication

To the memory of my dear mother and to my
loving father
I am indebted for my husband and my brother and for their cordial
encouragement and support.

Contents

List of tables in Chapter (3) paper 1

List of tables in chapter (4) paper 2

List of Figures

List of Abbreviations

(NASPHV) =National Association of State Public Health Veterinarians

(NASAHO) =National Assembly of State Animal Health Officials

(IHCV) =infectious hepatitis C virus

(IHBV)=infectious hepatitis B virus

(H1) hospital 1

(H2)= hospital 2

(H3)=hospital 3

(FUO) =fever of unknown origin