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

Some studies on brucellosis in sheep and goats in Gulf region

A thesis submitted by

Mohamed Hamdy Mohamed Aly Ebid
(BVSc, Cairo University, 1999; MVSc, Cairo University, 2006)

For the Degree of Ph.D.
(Infectious Diseases)

Under Supervision of

Prof. Dr. Amal Abdel Aziz El Molla
Professor of Infectious Diseases,
Department of internal medicine and infectious diseases,
Faculty of Veterinary Medicine, Cairo University.

Prof. Dr. Fayez Awadalla Salib
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2020

Cairo University
Faculty of Veterinary Medicine
Department of internal medicine and Infectious Diseases

APPROVAL SHEET

This is to approve that the dissertation presented by Mr. **Mohamed Hamdy Mohamed Aly Ebid** to Cairo University entitled:

``Some studies on brucellosis in sheep and goats in Gulf region``

For the degree of Ph.D. VSc. (Animal Infectious Diseases) has been approved by the examining committee:

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Signed in Monday 28/12/2020

SUPPERVISION SHEET

Thesis title:

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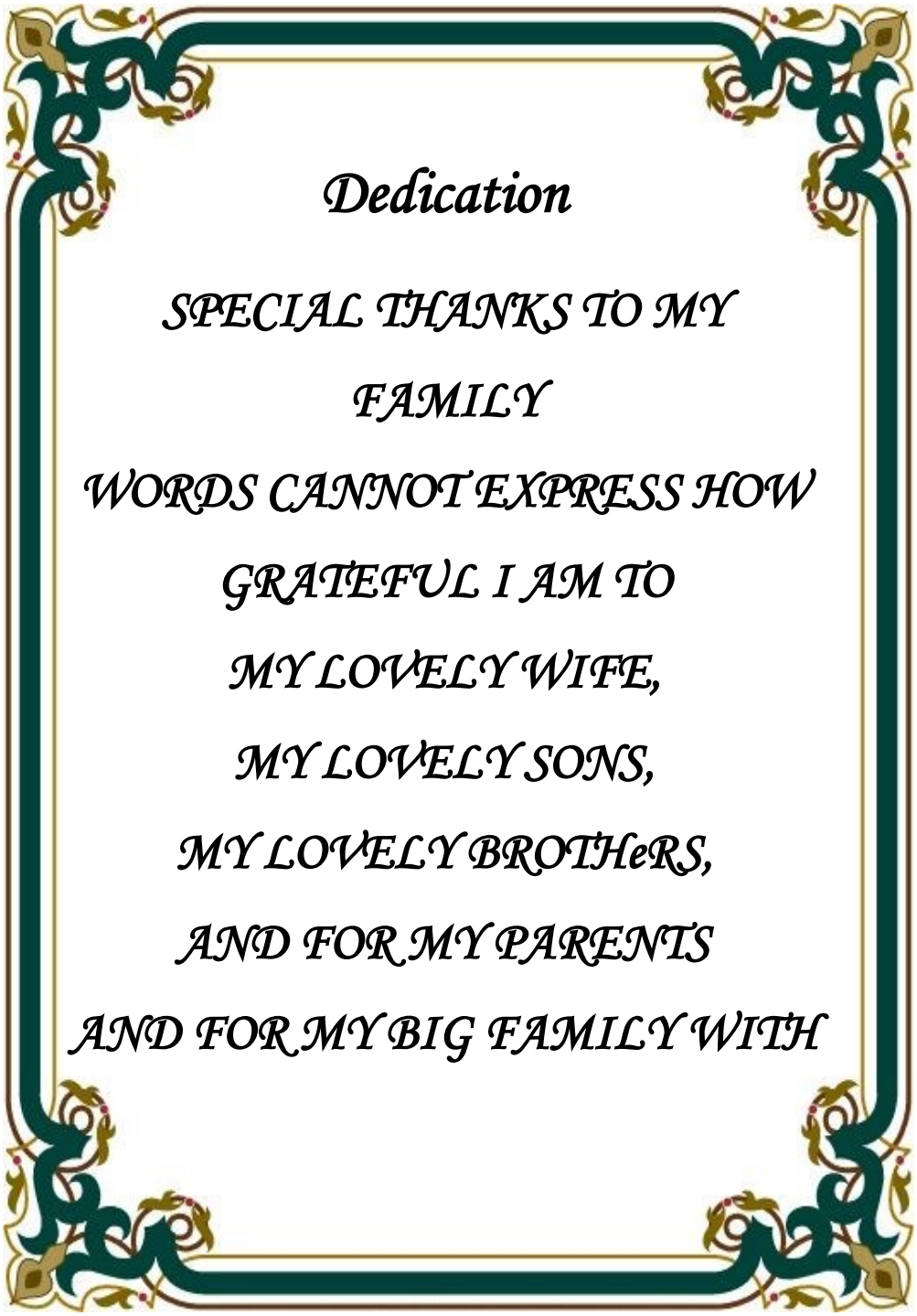

Dedication

SPECIAL THANKS TO MY

FAMILY

WORDS CANNOT EXPRESS HOW

GRATEFUL I AM TO

MY LOVELY WIFE,

MY LOVELY SONS,

MY LOVELY BROTHeRS,

AND FOR MY PARENTS

AND FOR MY BIG FAMILY WITH

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Title of M.V. Sc. Thesis: studies on infection by TOXOCARA CANIS in dogs.

Title of Ph. D thesis: Some studies on brucellosis in sheep and goats in Gulf region.

Pressent Jop: Veterinarian in General Organization of Veterinary Service
Supervisors: Prof. Dr. Amal Abdel Aziz Elmolla and Prof. Dr. Fayez Awadalla Salib.
Place of work: Gulf region

Abstract

This study was performed to determine the sero-prevalence of sheep and goats (small ruminants) brucellosis in some areas of Arabian Gulf, using by media-culture, serological methods (Rose Bengal Plate test (RBPT), indirect enzyme-linked immunosorbent assay (i-ELISA), complement fixation test (CFT) plus blood polymerase chain reaction (PCR) and PCR for tissue samples from positive reactors.

From 140 (73 sheep and 67 goats) tissue samples were collected and examined using media culture, it was found that, out of the 140-tissue sample collected, 67/140 (47.8%) were confirmed positive, and biovar 1 is dominant in area 1 and 3, while biovar 2 is dominant in area 2,

The serological examination using RBPT revealed that the Infection rate was total (855/20067 (4.26%)) animals were sero-positive, by using i-ELISA, and CFT reveled that out of the 855 RBPT-positive reactors, positively confirmed in 717/20067 (3.57%), 595/20067 (2.97%) and respectively, were confirmed as positive.

By PCR blood for confirmation cleared out of 855 positives by RBPT, 264/20067 (1.32%) animals, from confirmed positive reactors of animal 140 (73 sheep and 67 goats) tissue samples were collected and examined using PCR, collected from the positive reactor (RBPT and CFT), it was found that, out of the 140-tissue sample collected, by using PCR found that out of the 140-tissue sample collected, 128/140 (91.4%) were confirmed positive.

PCR also can differentiate between vaccinated rev-1 strain and field strain *B. melitensis* (field infection strain).

Also, to calculate the relative sensitivity and specificity of different tests used with CFT test, in sheep Sensitivity were 99.66%,100% and 43% for RBPT, i-ELISA and PCR blood respectively, while Specificity were 57.83%,77.56% and 99.72% forRBPT, i-ELISA and PCR blood respectively, in goats Sensitivity were 100%, 100% and 45% for RBPT, i-ELISA and PCR blood respectively, while Specificity were 64.22%, 89.11% and 100% for RBPT, i-ELISA and PCR blood respectively,

The study indicated that brucellosis in groups 1 (0.12%) and 2 (0.11%) in that area of the gulf using RBPT and CFT is under control, the prevalence less than (0.2%) so need continuous effort to maintain control and to complete eradication of brucellosis using (test and slaughter program). More efforts are needed for controlling brucellosis in group 3 (0.79%) (Imported animals), where it looks at the real risk of transmission, while in group 5 (6.57%) and group 7 (6.24%) (non-vaccinated groups) rate was very high need to apply control program, in other side in group 4 (2.87%) and group 6 (3.24%) (Vaccinated groups) rate was marked decreased by vaccination but still need more effort in applying control program.

PCR as a new diagnostic test, was a proven sensitive, and time-saving method for diagnosis brucellosis.

Keywords: *Brucellosis*, goats, sheep, sero-prevalence, RBPT, i-ELISA, CFT, PCR, isolation.