

حسام مغربي



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



حسام مغربي



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



حسام مغربي



شبكة المعلومات الجامعية

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



حسام مغربي



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



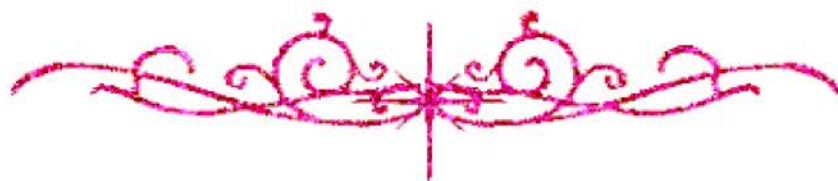
حسام مغربي



شبكة المعلومات الجامعية



بالرسالة صفحات
لم ترد بالأصل



B1512V

TREATMENT AND CONTROL OF
NEONATAL DIARRHEA IN CALVES
WITH PARTICULAR REFERENCE TO
USES OF NON-MEDICATED DRUGS

Thesis presented by

Refaat Abdallah Fathy Mikhael

(B. V. Sc. 1966 Fac. Of Vet. Med., Cairo University)
(M. V. Sc. 1990 Fac. Of Vet. Med., Alexandria University)

For the Ph. D. degree.
(Veterinary Medicine)
1999

TO
The Dep. Of Animal Medicine
Faculty of Veterinary Medicine
Alexandria University

Under supervision of

Prof. Dr. Mahmoud Ismail Mohamed

Prof. of General Medicine, Alexandria University

Dr. Gamal El-Said Abu El-Enin

Ass. Prof. of General Medicine, Alexandria University

Dr. Magda Saleh El-Said

Ass. Prof. of General Medicine, Alexandria University

Dr. Ali Makoud Matwally

Ass. Prof. of General Medicine, Alexandria University

جامعة الإسكندرية
كلية الطب البيطرى
قسم طب الحيوان والطب الشرعى

قرار لجنة الحكم والمناقشة

قررت لجنة الحكم والمناقشة ترشيح السيد ط.ب/ رفعت عبدالله فتحى ميخائيل للقبول على
درجة دكتوراة الفلسفة فى العلوم الطبية البيطريه (تخصص طب عام وعلاجى).

١- الأستاذ الدكتور / أحمد عبدالفتاح عامر

أستاذ الأمراض الباطنة والتشخيص المعملى

كلية الطب البيطرى - جامعة أسيوط

٢- الأستاذ الدكتور / صبحى المغاورى محمد

أستاذ الأمراض الباطنة

كلية الطب البيطرى - جامعة الزقازيق

٣- الأستاذ الدكتور / محمود إسماعيل محمد

أستاذ الطب العام والعلاجى

كلية الطب البيطرى - جامعة الإسكندرية

(والمشرف على الرسالة)

٤- الدكتور / جمال السيد أبو العينين

أستاذ الطب العام والعلاجى المساعد

كلية الطب البيطرى - جامعة الإسكندرية

٥- الدكتور / على محمود على متولى

أستاذ الطب العام والعلاجى المساعد

كلية الطب البيطرى - جامعة الإسكندرية

(والمشرف على الرسالة)

ACKNOWLEDGEMENT

First of all my prayerful thanks to our merciful God, who gave me everything I have.

I wish to express my deepest gratitude and appreciation to Prof. Dr. Mahmoud Ismail, Prof. of General Medicine, Faculty of Veterinary Medicine, Alexandria University for planning the design of this study, his continuous and valuable advice, guidance, encouragement and supervisions throughout this work.

I am gratefully thankful to Ass. Prof. Dr. Gamal El-Said Abu El-Einen, associate professor of general medicine, Faculty of Veterinary Medicine, Alexandria University for sharing supervisions, continuous aid and encouragement.

Cordial thanks are due to Ass. Prof. Dr. Magda Saleh El-Said, associate professor of general medicine, Faculty of Veterinary Medicine, Alexandria University for the subject guidance and her valuable assistance.

Special thanks from the heart to Ass. Prof. Dr. Ali Mahmoud Metwally, associate professor of general medicine, Faculty of Veterinary Medicine, Alexandria University for his special advice and help.

Grateful thanks to my beloved son Dr. Rafeek, anesthesiology resident, Kasr El-Aini University Hospitals, for his great effort in editing this thesis.

Finally I wish to thank all staff members, colleagues and technical assistance in the Dep. of Animal Medicine, Faculty of Veterinary Medicine, Alexandria University for facilities given during this work

DEDICATION

This thesis is dedicated to *my father*, Mr. Abdallah Fathy, and to the *spirit of my late mother* Matilda. It is also dedicated to *my wife*, Dr. Mary, and *my sons*, Dr. Rafeek and Dr. Ramez.

LIST OF ABBREVIATIONS

µg/dL-----	microgram per deciliter
µL -----	microliter
°C-----	degree centigrade
A/G-----	Albumin/globulin ratio
ALT -----	Alanine aminotransferase
AST -----	Aspartate aminotransferase
Cl ⁻ -----	Chloride ion
dL-----	deciliter
E. coli -----	Echirechia coli
EDTA -----	Ethylenediaminetetraacetic acid
eq/L -----	Equivalent per Liter
g-----	Gram
GEM -----	Glucose-electrolyte mixture
GGES -----	Glucose-glycine-electrolyte solution
H ⁺ -----	Hydrogen ion
HCl-----	Hydrochloric acid
Hg -----	Mercury
I/P -----	Intraperitoneal
I/U-----	International unit
I/V-----	Intravenous
K ⁺ -----	Potassium ion
KCl-----	Potassium chloride
kg-----	kilogram
meq/L -----	milliequivalent per liter
mg -----	Milligram
Mg ²⁺ -----	Magnesium ion
mL-----	milliliter
mm ³ -----	millimeter cube

mol/L-----	Mole per liter
N/10-----	Tenth normal solution
Na ⁺ -----	Sodium ion
NaCl-----	Sodium chloride
NaHCO ₃ -----	Sodium bicarbonate
NaOH-----	Sodium hydroxide
nm-----	nanometer
ORS-----	Oral rehydrating solution
PCV-----	Packed cell volume
pH-----	Negative common logarithm of hydrogen ion concentration
PO ₄ ³⁺ -----	Phosphate ion
RBC-----	Red blood corpuscle
S/C-----	Subcutaneous
U/L-----	Unit per liter

LIST OF TABLES

TABLE 1: CALF BODY CONDITION OF DISEASED CALVES	41
TABLE 2: DEGREE OF DEHYDRATION IN DIARRHEIC CALVES	42
TABLE 3: EFFECT OF DIFFERENT TREATMENTS ON RBC COUNT	43
TABLE 4: EFFECT OF DIFFERENT TREATMENTS ON BLOOD HEMOGLOBIN PERCENTAGE.....	44
TABLE 5: EFFECT OF DIFFERENT TREATMENTS ON PACKED CELL VOLUME.....	45
TABLE 6: EFFECT OF DIFFERENT TREATMENTS ON TOTAL LEUKOCYTIC COUNT	46
TABLE 7: EFFECT OF DIFFERENT TREATMENTS ON SERUM SODIUM LEVEL	47
TABLE 8: EFFECT OF DIFFERENT TREATMENTS ON SERUM POTASSIUM LEVEL.....	48
TABLE 9: EFFECT OF DIFFERENT TREATMENTS ON SERUM CHLORIDE LEVEL.....	49
TABLE 10: EFFECT OF DIFFERENT TREATMENTS ON SERUM CALCIUM LEVEL	50
TABLE 11: EFFECT OF DIFFERENT TREATMENTS ON SERUM GLUCOSE LEVEL	51
TABLE 12: EFFECT OF DIFFERENT TREATMENTS ON SERUM TOTAL PROTEINS	52
TABLE 13: EFFECT OF DIFFERENT TREATMENTS ON SERUM ALBUMIN CONCENTRATION.....	52
TABLE 14: EFFECT OF DIFFERENT TREATMENTS ON SERUM GLOBULIN CONCENTRATION....	53
TABLE 15: EFFECT OF DIFFERENT TREATMENTS ON SERUM A/G RATIO	53
TABLE 16: EFFECT OF DIFFERENT TREATMENTS ON SERUM AST ACTIVITY	54
TABLE 17: EFFECT OF DIFFERENT TREATMENTS ON SERUM ALT ACTIVITY.....	55

TABLE OF CONTENTS

1. INTRODUCTION	1
2. REVIEW OF LITERATURE	3
2.1. <i>Diarrhea and economic loss in calves</i>	3
2.2. <i>Hematological evaluation</i>	4
2.3. <i>Biochemical changes in blood</i>	6
2.4. <i>Treatment of dehydration in diarrheic calves</i>	9
3. MATERIALS AND METHODS	24
3.1. <i>Materials</i>	24
3.1.1. <i>Animals</i>	24
3.1.2. <i>Rehydrating solutions</i>	24
3.1.2.1. <i>Glucose-glycine-electrolyte mixture</i>	24
3.1.2.2. <i>Glucose-electrolyte mixture</i>	25
3.1.2.3. <i>Lectade powder</i>	25
3.1.2.4. <i>Non-medicated mixture (Lomoton)</i>	26
3.1.3. <i>Antibiotic</i>	26
3.2. <i>Methods</i>	27
3.2.1. <i>Grouping of calves</i>	27
3.2.2. <i>Clinical examination of calves</i>	27
3.2.3. <i>Blood sampling</i>	27
3.2.4. <i>Hematological examination</i>	28

3.2.4.1. Total erythrocytic count	28
3.2.4.2. Determination of hemoglobin percentage	29
3.2.4.3. Determination of packed cell volume	29
3.2.4.4. Total leukocytic count	29
3.2.5. <i>Estimation of serum electrolytes</i>	30
3.2.5.1. Serum sodium level determination	30
3.2.5.2. Serum potassium level determination	31
3.2.5.3. Serum chloride level determination	31
3.2.5.4. Serum calcium level determination	32
3.2.6. <i>Serum glucose level</i>	33
3.2.7. <i>Serum protein level determination</i>	34
3.2.7.1. Total serum protein level determination	34
3.2.7.2. Serum albumin concentration	36
3.2.8. <i>Serum enzyme activity</i>	37
3.2.8.1. Serum AST (SGOT) activity	37
3.2.8.2. Serum ALT (SGPT) activity	38
3.2.9. <i>Treatment of diarrheic calves</i>	39
3.2.10. <i>Statistical analysis</i>	40
4. RESULTS	41
4.1. Body condition	41
4.2. Rehydration of calves	42
4.3. Mortality	42
4.4. Hematological examination	43