بسم الله الرحمن الرحيم

Sudan University of Science and Technology <u>College of Graduate Studies</u>

Clinical and Sero-biochemical Studies

0n

Pregnancy Toxaemia in Shamia Goats

A THESIS

Submitted in accordance with the requirements of the Sudan University of Science and Technology for the degree of:

Master of Veterinary Medicine

By:

Nedal Mohammed Al-bhanasawi B.V.Sc., (1992)

Supervisor:

Dr. Seif Eldawla Mustafa Barakat

July, 2006

Table of Contents

| Item | Page No. |
|-----------------------------------|----------|
| Table of contents | i |
| Dedication | iv |
| Acknowledgments | V |
| Summary | vi |
| ملخص الرسالة | vii |
| List of figures | viii |
| List of tables | ix |
| Introduction | 1-2 |
| Objectives | 3 |
| 1. Literature review | 4 |
| 1.1 Etiology | 5 |
| 1.2 Clinical signs | 6 |
| 1.3 Epidemiology and pathogenesis | 7 |
| 1.4 Diagnosis | 9 |
| 1.4.1 Laboratory examination | 9 |
| 1.4.2 Necropsy findings | 9 |
| 1.5 Treatment | 10 |
| 1.5.1 Replacement therapy | 11 |
| 1.5.2 Hormonal therapy | 11 |
| 1.6 Prevention | 12 |
| 2. Materials and methods | 14 |
| 2.1 Survey data | 15 |
| 2.2 Clinical cases | 15 |
| 2.3 Clinical examination | 15 |
| 2.4 Collection of blood Samples | 15 |
| 2.5 Laboratory investigation | 15 |
| 2.5.1 Hematological measurements | 15 |
| 2.5.2 Glucose tolerance Test | 16 |

| 2.5.3 Determination of biochemical parameters | 16 |
|--|-------|
| 2.6 Treatment | 16 |
| 2.7 Statistical analysis | 17 |
| 3. RESULTS | 18 |
| 3.1 Clinical manifestation and owner history | 19-22 |
| 3.2 Glucose tolerance test | 23 |
| 3.3 Hematological findings | 24 |
| 3.4 Biochemical Findings | 25 |
| 3-5 Serobiochemical values of goats with pregnancy toxemia | |
| | |
| 3-6 Profile of proteins | 27 |
| 3.7 Treatment | 28 |
| 4. DISCUSSION | 30 |
| 5. Conclusion and Recommendations | 33 |
| 6. References | 34-36 |
| | |

DEDICATION

| This thesis is dedicated with deepest love and appreciation to my parents |
|---|
| and wife . |
| |
| |
| |
| |
| |
| |
| |

ACKNOWLEDGMENTS

I am indebted to my supervisors professor Seif Eldawla Mustafa Barakat and professor Galal Aldin Alazhari Mohamed for their guidance, encouragement and patiences during this work

I thank my wife for having the journey of developing this thesis with me. I thank her for her tiredness, understanding, positive spirit, love and admiration which continue to support me through my difficult times.

I thank our children for their continued love and appreciation. The challenge of being a parent has allowed me to understand the vocation of parenting had and love them evermore.

With great thanks to Sudan University Of Science And Technology . And King Faisal University - Kingdom of Saudi Arabia - .

SUMMARY

Detailed study of mild and advanced cases of pregnancy toxaemia was carried out on 39 affected goats. 15 of these goats were diagnosed as mild cases of the disease, whereas 24 of them were considered as advanced cases.

The estimation of blood glucose, plasma protein, plasma creatin kinase pyruvate, lactate dehydrogenase, in addition to blood urea nitrogen was carried out. The results were compared with those obtained from healthy pregnant goats.

The results of the present investigation showed that blood glucose level is low in all the affected goats. However level of plasma lactate, pyruvate, urea nitrogen and creatinine kinaze in the same goats were highly increased. These results suggest that the main cause of death among pregnancy toxaemic goats may be due to kidney and liver dysfunction.

ملخص للر سالة

لقد تمت المواسة التفصيلية على 39رأس من الماعز شخصت إكلينكيا بإصابتها بعرض تسمم الحمل في مواحل مختلفة تقول ح بين إصابات خفيفة إلى متقدمة . لقد تم عمل إختبرات مختلفة لهذه الحالات من قياس لمسقى الجلوق ز في الدم ، إختبرات حيو كيميولية ، اختبار أزيمات و ربو تينات الدمو مقل نتها بحالات سليمة لمعز هو امل لقد أظهرت النتائج أن مسقى الجلوق ز في الدم للحالات التي تعاني من تسمم الحمل منخفض، وأن نسبة الله كتيت ، بيو فيت ، كوياتينين و وريا الدم و تفعة بشكل و اضح مما وردي إلى صور بة العلاج و عدم نجاحه و نفوق الحوان نسبة لعدم أداء الكبد و الكلى بشكل طبيعي.

List of Figures

| Item | Description | No. |
|-----------------|--|-----|
| Figure 1 | Mild case of pregnancy toxaemia | 20 |
| Figure2 | (Hypoglycemic encephalopathy) | 20 |
| Figure 3-4 | Sever case of pregnancy toxemia showing goat | 20 |
| | with lateral recumbency and coma. | |
| Figure 5 | Goat with pregnancy toxemia and tetanic | 21 |
| | convolutions. | |
| Figure 6 | Vaginal prolapse of goat | 21 |
| Figure 7-8 | Goat with destended abdomen and stargazing. | 21 |
| Figure 9 | Hematological parameters of | 24 |
| | pregnancytoxaemic goat. | 1 |
| Figure 10 | Values of some blood biochemical component | 25 |
| | in goats with pregnancy toxaemia. | |
| Figure 11 | Serobiochemical values of goat with | 26 |
| | pregnancyToxaemia. | |
| Figure 12 | serobiochemical values of goat with pregnancy | 27 |
| | toxaemia | |
| Figure 13-14 | Treatment of pregnancy toxemic goat with | 28 |
| | 25% glucose by I.V route | 1 |
| Figure 15-16-17 | Caesarian section of same goat after closer of | 22 |
| | uterus, abdomen and skin. | |
| Figure 18 | Goat after surgery with 3 alive kids and | 22 |
| | healthy mother | |

List of Tables

| Item | Description | No. |
|---------|---|-----|
| Table 1 | Glucose tolerance test in Healthy Pregnant and Pregnancy toxaemic goat. | 23 |
| Table 2 | Mean (±SD) Hematological parameters of pregnancy toxaemic goat | 24 |
| Table 3 | Mean (±SD) values of some blood biochemical component in sheep and goats with pregnancy toxaemia. | 25 |
| Table 4 | Serobiochemical values of goat with pregnancy toxaemia | 26 |
| Table 5 | Serobiochemical values of goats with pregnancy toxaemia | 27 |
| Table 6 | Fate of 39 treated cases of pregnancy toxaemic goat. | 29 |