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POST CAPTURE MYOPATHY SYNDROME
IN RED DEER (*Cervus elaphus*)

A thesis presented in fulfilment of the requirements for the degree of Master of Veterinary Science at Massey University.

Hamish John Penwick McAllum
1978.
ABSTRACT

The capturing of red deer from the wild to stock deer farms has brought with it problems of stress. Large numbers of deer have died due to poor catching techniques and inappropriate drugs. Efforts to minimize these deaths require an understanding of the physiology, pathology and epidemiology of the changes occurring within the animal and during capture.

To assist in the correct interpretation of the data collected, normal haematological and biochemical parameters had to be established. This was carried out on deer of different age groups and sex from deer farms. In addition the effects of the commonly used capture drugs on the biochemical parameters were established.

Blood and serum were obtained from captured animals at the site of capture and where possible further samples were obtained from these animals at set intervals.

The biochemical parameters found to vary from the normal in captured animals were pH, Pco₂, lactate, SGOT, (Aspartate aminotransferase), blood urea nitrogen, and potassium. The changes in these parameters clearly indicated a profound acute or delayed lactic acidosis and severe muscle damage both skeletal and cardiac. The captured animals were divided into those which survived (captured) and those which died (myopathic). It was found that the changes in the 'myopathic' group were more profound than in the 'captured' group.

The rising blood urea nitrogen levels and damaged cardiac muscle may account for the delayed deaths from uraemia due to a severe nephrosis and cardiac failure.
The clinical effects on captured animals were recorded and those that died in both the acute and delayed form were necropsied. The gross and histological lesions were described. The most obvious clinical changes in addition to temperature, respiration and heart rates were lameness, recumbency and the wry neck. Histologically, the muscle changes resembled those found in white muscle disease of domestic ruminants in this country.

The epidemiological studies suggested certain simple measures could be taken to reduce the effects of the respiratory depression resulting from the drugs and transportation, to reduce the stress of capture and to allow acclimatisation to the new conditions. These were (1) that less or no halorphine be used, (2) that the animals were caught early in the year, (3) that young, smaller females were preferred to males (4) that a loose bag totally enclosing the animals was used, (5) that darkened conditions helped keep the animals quiet and (6) all captured animals should be retained in a dark house for two or more days before release into the paddocks.
ACKNOWLEDGEMENTS

I wish to express my sincere thanks to my supervisors Dr R.H. Sutton and Mr A.R.A. Watson whose patience, understanding and encouragement have helped me considerably. I would also like to thank Mr T. Wallis of Alpine Helicopters Ltd., Mr G. Gosney of Wirliwide Helicopters Ltd., helicopter pilots Mr Eddy McGregor and Mr Frank Wright; Mr James Innes of Haldon Station; Mr John Beattie of St. Bathans Station, Mr Peter Elworthy of Papomoa farm and Mr Malcom Prouting of Mesopotamia Station; all of whom were enthusiastic and co-operative; The Director, Animal Health Division, Ministry of Agriculture & Fisheries for allowing me to carry out this thesis; Dr E. Fawcett of the Otago Medical School for allowing me to use the blood gas analysis machine I.L.200; my colleagues of the Invermay Animal Health Laboratory, particularly Dr T.C. Reid for guiding me through the intracacies of chemical analyses; Mrs C.E. Aitken for patiently typing the manuscript; Mr J. McGregor for the splendid diagrams and Mr P. Johnstone for help with the statistical analyses.
CONTENTS

ACKNOWLEDGEMENTS

INTRODUCTION

PREDISPOSING FACTORS

Capture Methods

Pharmacological

Mechanical

Transportation

Tranquillization

THE DISEASE PROCESS

Clinical Signs

Physiological and biochemical changes

The role of adrenaline

Miscellaneous biochemical changes

Haematological and urine changes

PATHOLOGY

THERAPY

SUMMARY

MATERIAL AND METHODS

INTRODUCTION

ANIMAL AND BLOOD SAMPLE COLLECTION METHODS

Normal animals

Captured and myopathic animals

Blood samples and handling procedures

Blood samples
Blood handling procedures

Normal animals

Captured and myopathic animals

EPIDEMIOLOGICAL DATA COLLECTION

POST MORTEM PROCEDURES

ANALYTICAL METHODS

Haematology

Haemoglobin (Hb)

Packed cell volume (P.C.V.)

Mean corpuscular haemoglobin concentration (MCHC)

Total white cells (W.C.C.)

Blood smears

Biochemistry

Blood pH

Total carbon dioxide (CO₂)

Partial pressure of carbon dioxide (PCO₂)

and base excess

Lactate

Blood urea

Glucose

Serum glutamic oxaloacetic transaminase (Aspartate amino-transferase)

Calcium and magnesium

Sodium and potassium

Phosphate

Total protein

Urine Analysis

Statistical Analyses
RESULTS

NORMAL CLINICAL, HAEMATOLOGICAL AND BIOCHEMICAL PARAMETERS

Clinical
Haematological
Biochemical

THE EFFECT OF DRUGS ON HAEMATOLOGICAL AND BIOCHEMICAL PARAMETERS

CLINICAL, HAEMATOLOGICAL, BIOCHEMICAL AND PATHOLOGICAL CHANGES IN CAPTURED DEER.

Clinical signs
Haematology and biochemistry

Gross pathology

Histopathology

Lung
Liver
Kidney
Adrenal glands
Thyroid glands
Gastro-intestinal tract
Lymph nodes
Spleen
Brain and cervical cord
Myocardium
Skeletal muscle

EPIDEMIOLOGY
DISCUSSION
ANTICOAGULANT, DISTANCE, TIME AND CONTAINER EFFECTS

HAEMATOLOGY AND CLINICAL BIOCHEMISTRY OF NORMAL ANIMALS

EFFECT OF TRANQUILLIZING DRUGS

POST CAPTURE MYOPATHY SYNDROME

PATHOGENESIS

REFERENCES

APPENDICES

Tables XIII-XXII

Statistical analyses

TABLES

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I List of species affected by Post Capture Myopathy</td>
</tr>
<tr>
<td>II Comparison of rectal temperatures, cardiac and respiratory rates between controls and chased group (from Hofmeyr et al 1973)</td>
</tr>
<tr>
<td>III Epidemiological data record sheet</td>
</tr>
<tr>
<td>IV Respiratory rates, heart rates and rectal temperatures in clinically normal 1 year old red deer</td>
</tr>
<tr>
<td>V Normal values for the biochemical parameters in the two female and one male group</td>
</tr>
<tr>
<td>VI Haematological and biochemical values in blood collected from red deer tranquillized with Rompun and Fentaz</td>
</tr>
</tbody>
</table>
VII The statistical comparison of blood parameters between normal males and "Pentaz" affected males using Students "t" test. 39

VIII Comparison of clinical parameters between captured and myopathic groups 41

IX Summary of parameters for captured and myopathic animals 45

X Epidemiological data 54

XI Post capture losses 55

XII Comparison of normal haematological parameters of this study and other authors 59

XIII Normal haematological values 74

XIV The statistical comparison of haematological parameters using students 't' test 76

XV Captured animals: analyses of blood taken within the first half hour of capture 77

XVI Captured animals: analyses of blood taken within one hour of capture 78

XVII Captured animals: analyses of blood taken within one hour and a half of capture 79

XVIII Captured animals: analyses of blood taken within three hours of capture 80

XIX Captured animals: analyses of blood taken more than thirtysix hours after capture 81

XX Myopathic animals: analyses of blood taken within half an hour of capture 82

XXI Myopathic animals: analyses of blood taken within one hour of capture 83

XXII Myopathic animals: analyses of blood taken more than twentyfour hours after capture 84
FIGURES

1. Location map of sampling sites 27-28
2. Distribution of haemoglobin (g/100mls) in 86 adult males 35-36
3. Distribution of haemoglobin (g/100mls) in 25 adult females 35-36
4. Distribution of P.C.V. in 86 males 35-36
5. Distribution of P.C.V. in 24 females 35-36
7. Distribution of W.C.J. in 19 x 14 month old females 35-36
8. Distribution of W.C.J. in 86 adult males 35-36
9. A representative normal electrophoreto-

10. Captured animals showing the "wry" neck which develops soon after capture 43-44
11. Urine from a myopathic animal 43-44
12. Graph of pH for captured and myopathic groups 45-46
13. Graph of lactate levels (mmols/ ) for captured and myopathic groups 45-46
14. Examples of electrophoretoograms from 'captured' animals 45-46
15. Examples of electrophoretoograms from "myopathic" animals 45-46
16. Muscles most frequently affected with gross myonecrosis 45-46
17. Pale streaks in muscles at necropsy 47-48
18. Photomicrograph of kidney tubules showing pale blue staining (Perl's) 47-48
19. Acute condition showing disarranged ragged degenerate fibres and loss of striations 49-50
20. Chronic condition showing regeneration, enlargement of sarcolemmal cells and fibrosis 49-50
21. Deer catching country, St. Bathans. Vehicle in foreground is typical of many of the transporters used for deer 52-53
22. Captured deer confined within carrying bags 52-53
23. Post capture myopathy pathogenesis 72