Related Publications

CONFERENCE PROCEEDINGS


CONFERENCE POSTERS

Gummow, B., Botha, C.J., Bastianello, S.S. 2004. The pathogenesis, clinical signs and pathology of chronic environmental vanadium poisoning in cattle. Annual Congress of the Society for Veterinary Epidemiology and Preventive Medicine, Martigny, Switzerland, 24-26 March

The work in this thesis has stretched over many years and the complexity of the project has resulted in direct or indirect inputs from many people over the years. Some inputs were large and others were small but all these inputs contributed to the end product. Most of those involved have been acknowledged at the end of each relevant chapter and my gratitude is extended once again to these people.

There were those who contributed in the course of their routine work and they have not yet been acknowledged. They are the behind the scenes people, without whom nothing happens. My thanks go out to the laboratory staff in the section of toxicology at the Onderstepoort Veterinary Institute, who assisted with the laboratory work in the early days, then to the laboratory staff in the section of clinical pathology at the Faculty of Veterinary Science, University of Pretoria and the laboratory staff at the Institute for Soil Climate and Water, who over many years analysed thousands, if not tens of thousands of samples. Thanks go to the staff in the Department of Production Animal studies, who have put up with me for so many years and who contributed behind the scenes in many ways, from nursing sick calves to typing in data and ordering supplies. Many a debate was had in the tea room over this project.

I would like to thank the staff of the mining company where the sentinel cattle were farmed for believing in me and assisting where possible. The concept of farming was completely foreign to mine management, and one of the first hurdles was to integrate a farming enterprise into the existing mining enterprise. There were times when I wondered if we would ever get it right but we did. In particular I would like to thank JJ van der Merwe and Dewald Steyn for the role they played in initiating and managing the mining side of the project. I would also like to thank the mine for allowing us to use this project for teaching purposes.

While there were many co-workers, there were certain individuals who played a key role in this work and probably the most important was Christo Botha who stuck with me from the first outbreak in 1991 until the end. His contribution to the project as a friend and toxicologist has
Acknowledgements

been invaluable. Other important co-workers have been Stella Bastianello, who of all the many pathologists involved in this work deserves the most credit for the efforts she went to to describe the pathology, Soil scientist, Willem Kirsten, who spent many hours in the field collecting soil and grass samples and then analysing them in the laboratory, and who together with chemical engineer, Les Ford and myself debated the chemistry of vanadium and how we were going to get the various aspects of the project to fit together. Without Willem’s dedication we would have had no results to put into my model. To herd health specialist, Willem Schultheiss, who collected many a specimen with me and taught me how to remove tail-vertebrae. After finding out the hard way how hard bovine bone is, we figured out a novel way of doing rib-biopsies using an electric drill. To chemist and physicist, Rosalind Gummow, who as scientist worked with me on getting the physics in the model right and as my wife stood by me through the long process of writing this thesis. Her support was invaluable. To Dietmar Holm, who spent many an hour with me in the veterinary hospital and on the farm trying to figure out the pathogenesis and treatment of vanadium poisoning.

I would also like to thank my two supervisors Hans Heesterbeek and Jos Noordhuizen, who provided me with an opportunity of a lifetime by agreeing to take me on as one of their PhD students. I have appreciated their hospitality, dedication, support and patience and the things they have taught me.

Lastly, my thanks go to the University of Pretoria, University of Utrecht, Institute for Soil, Climate and Water and the Rhovan mining company for funding this PhD.

The cattle sentinel project received the approval of both the Research and Ethics Committees of the Faculty of Veterinary Science, University of Pretoria and was registered as project no. 36.5.381
Curriculum Vitae

Qualifications

<table>
<thead>
<tr>
<th>Year</th>
<th>Qualification</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>Natal Senior Certificate</td>
<td>Westville Boys High School, Natal</td>
</tr>
<tr>
<td>1983</td>
<td>BVSc</td>
<td>University of Pretoria</td>
</tr>
<tr>
<td>1988</td>
<td>BVSc(Hons) (Clinical Pathology 700; Statistics 101, 102, 103, 104 and Toxicology 700)</td>
<td>University of Pretoria</td>
</tr>
<tr>
<td>1989</td>
<td>Physiology 700; Pharmacology 700</td>
<td>University of Pretoria</td>
</tr>
<tr>
<td>1993</td>
<td>Pharmacology 800 (distinction)</td>
<td>University of Pretoria</td>
</tr>
<tr>
<td>1993</td>
<td>MMedVet (Pharmacology)</td>
<td>University of Pretoria</td>
</tr>
<tr>
<td>2004</td>
<td>Dipl.ECVPH</td>
<td>European College of Veterinary Public Health</td>
</tr>
</tbody>
</table>

Employment record

2000 - Head of the Section on Veterinary Epidemiology, Economics and Risk Assessment within the Department of Production Animal Studies, Faculty of Veterinary Science, Onderstepoort.

1996-1999 - Functional unit head of half the Department of Animal and Community Health, Faculty of Veterinary Science, Onderstepoort.

1995 - Associate Professor, Department of Animal and Community Health, Faculty of Veterinary Science, Onderstepoort.

1993-1995 - Senior Lecturer, Department of Veterinary Public Health

1991-1993 - Senior Lecturer, Department of Infectious Diseases

1988-1991 - Researcher, Section of Toxicology, Veterinary Research Institute, Onderstepoort

1987-1988 - Researcher, Section of Technical Statutory Advice, Veterinary Research Institute, Onderstepoort

1985-1987 - Researcher, Section of Bacteriology and Reproductive Diseases, Veterinary Research Institute, Onderstepoort


Publications and presentations

- 25 refereed research papers
- 6 posters
- 4 non-referred scientific papers
- 32 presentations at local and international conferences
- 8 major contract reports for industry
- 8 interactive veterinary epidemiology workshops / courses
- 4 television interviews
- 9 dissertations promoter/co-promoter

- MMedVet Thesis: A bioequivalence evaluation of two commercial diminazene aceturate formulations administered intramuscularly to cattle. (External Examiner: Prof. C. R. Short, Department of Veterinary Physiology, Pharmacology & Toxicology, School of Veterinary Medicine, Louisiana State University, Baton Rouge, Louisiana, USA.)