EXHIBIT 3

Iatrogenic Segmental Gangrene

2 pages

Still Photos of Ruth's Right Ear

3 photos

Iatrogenic Segmental Ear Gangrene in Elephants and Lagomorphs

Summary Information

Diseases / List of Miscellaneous / Metabolic / Multifactorial Diseases / Disease Summary

Alternative Names

- Iatrogenic sloughing of the ear

Disease Agents

In Elephants

- Irritant drugs inadvertently injected perivascularly when using the ear veins to give an intravenous injection. (B10.49.w21, J196.72.w1, P64.1.w2, W580.Aug2005.w1)

In Lagomorphs

- Necrosis of the pinna tip or part of the ear can occur sometimes following:
- Catheterisation of the auricular vein or artery
  - This may be due to phlebitis caused by administration of irritant solutions or medications; aggressive taping of the ear; or mechanical irritation due to the catheter itself.
- Injection of irritant drugs into the marginal ear vein
- Taking blood from the central auricular artery.

(B600.3.w3, B601.2.w2, B602.14.w14, B606.17.w17)

Infectious Agent(s)	-
Non-infectious Agent(s)	• **Irritant drugs:**
Physical Agent(s)	-

General Description

In Elephants

- Perivascular administration of some drugs when injecting into the ear veins may lead to necrosis and sloughing of the affected portion of the ear. (B10.49.w21, D301.3.w3, J196.72.w1, P64.1.w2, W580.Aug2005.w1)
  - Segmental gangrene and sloughing of a portion of the ear has been recorded in two elephants following intravenous injection of **phenylbutazone** into the auricular vein. (J196.72.w1)
  - Sloughing of the skin of the ear has been reported following injection of concentrated (5%) thiopental

sodium. (J329.10.w1, P64.1.w2)
  - Segmental gangrene and sloughing has been seen following injection of glucose into an ear vein. (B16.18.w18)
  - Thrombophelbitis occurred in the ears of two elephants following injections of hypertonic calcium solution, leading to development of holes of 10 -25 cm diameter in the affected ears. (B214.3.7.w3)

Clinical signs

In Elephants

- Phlebitis/thrombophlebitis at the injection site. (B214.3.7.w3, J196.72.w1)
- Necrosis and sloughing of the affected area of the ear. (B16.18.w18, J196.72.w1, J329.10.w1, P64.1.w2)

In Lagomorphs

- Ischaemic necrosis, sloughing of the ear tip or part of the ear. (B600.3.w3, B601.2.w2, B602.14.w14, B606.17.w17)

Further Information

Prevention

In Elephants

- Phenylbutazone should be given orally to elephants. (J196.72.w1)
- In case of intravenous administration of irritant solutions, a dilute solution should be injected slowly into the ear vein via an intravenous catheter rather than a needle. (B10.49.w21, B23.77.w12, J196.72.w1, W580.Aug2005.w1)
  - Use light sedation of the elephant to prevent the elephant from struggling or flapping its ears. (B10.49.w21, W580.Aug2005.w1)
- Alternatively, a leg vein may be chosen for injection rather than an ear vein. (B10.49.w21, D301.2.w2, W580.Aug2005.w1)

In Lagomorphs

- Care should be taken to avoid perivascular administration when injecting medications into this vein because many drugs are irritant and sloughing of the pinna may occur. (B606.17.w17)

Associated Techniques

- Arterial Catheterization of Rabbits (Techniques)
- Intravenous Injection and Catheterisation of Rabbits (Techniques)
- Environmental Assessment
- History & Documentation
- Physical Examination of Mammals
- Necropsy of Mammals
- Clinical Pathology of Lagomorphs
- Treatment and Care

	• Environmental and Population Management • Preventative Medicine for Mammals • Chapter 2 - B36 Field Manual of Wildlife Diseases - Specimen Collection and Preservation • Chapter 3 - B36 Field Manual of Wildlife Diseases - Specimen shipment • Appendix A - B36 Field Manual of Wildlife Diseases - Sample specimen history form
Host taxa groups /species	*Further information on Host species has only been incorporated for species groups for which a full Wildpro "Health and Management" module has been completed (i.e. for which a comprehensive literature review has been undertaken). Host species with further information available are listed below:* • Elephants (Elephantidae - Elephants (Family)) • *Elephas maximus* - Asian Elephant • *Loxodonta africana* - African Elephant • *Oryctolagus cuniculus domesticus* - Domestic European rabbit (List does not contain all other species groups affected by this disease)
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Referees	

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