
Investigations of suspected exotic disease

Anthrax excluded

A veterinary practitioner conducted a postmortem examination on one of two cows that had died suddenly. The animal's spleen was bruised and haemorrhagic. Samples of peripheral blood and spleen taken for anthrax visualisation and culture were negative for *Bacillus anthracis*.

A cattle beast presented for slaughter at a meat premises was

Exotic disease investigations are managed and reported by MAF's National Centre for Disease Investigation (NCDI). The following is a summary of investigations of suspected exotic disease during the quarter from October to December 2002.

unremarkable at antemortem inspection, but had a grossly enlarged and haemorrhagic spleen on postmortem examination. The carcass was retained and samples were submitted for bacteriology and histopathology. Bacteriology was negative for *Bacillus anthracis*.

Histology demonstrated a lymphoid atrophy with evidence of a haemolytic process. A bovine viral diarrhoea antigen ELISA performed on the splenic tissue was negative. Plant poisoning was suspected, and the carcass condemned.

A building inspector reported eight cattle carcasses in paddocks of a property for sale. An AgriQuality livestock officer who visited the property noted that all the carcasses were old and had reportedly accumulated over a period of months. There had been no recent deaths and there was no evidence of an exotic disease.

Brucella abortus excluded

A bull imported from Australia in June 2002 was presented with pyrexia and orchitis. The bull was negative for *Brucella abortus* when tested using the complement fixation test.

Transmissible spongiform encephalopathy excluded

The cases reported in this section are the more significant suspected transmissible spongiform encephalopathy investigations for the quarter.

A three-year-old Friesian cow had been ataxic, anorexic, blind and high-stepping without response to treatment, for some days prior to euthanasia. Histopathological examination of the brain revealed lesions consistent with a diagnosis of listeriosis.

A five-year-old Friesian cow was blind, dull and grinding its teeth for five days prior to euthanasia. Within the cerebral cortex there were multifocal areas of neuropil necrosis associated with perivascular haemorrhage, oedema and fibrinoid necrosis of blood vessel walls. This type of lesion suggests a primary vascular aetiology and can be associated with excess sulphur intake.

The brain from a five-year-old Friesian cow with a chronic history of nervous disease was examined. The histopathological findings were consistent with a diagnosis of polioencephalomalacia.

In brain from a four-year-old Friesian cow there were small to moderate, lymphocytic/mononuclear, perivascular cuffs with neutrophils present in the vessel walls. Another adult Friesian cow had a head twitch with blinking then developed a mucopurulent ocular and nasal discharge. Mononuclear perivascular cuffs were present in the brain. In both cows the findings are consistent with malignant catarrhal fever.

Antemortem inspection at a slaughter premises identified a two-year-old heifer showing mild neurological signs. There was no response to treatment with metabolic solutions. The animal was euthanased and the head submitted for TSE surveillance. Histopathology demonstrated cerebellar abiotrophy, an inherited condition in cattle.

A MAF Verification Agency veterinarian reported clinical signs consistent with scrapie in one sheep of a group of 16 during antemortem inspection at a slaughter premises. Brain samples were submitted for Western Blot Prionics testing and histology. The

Prionics test on a brainstem sample was negative for prions. No suspicious lesions were found on histological examination of sections of cerebral cortex, thalamus, hippocampus, mid-brain, cerebellar and obex regions of the brain, and TSE was excluded. The cause of the signs was attributed to infection with the nasal bot fly *Oestrus ovis*.

A private veterinarian suspected bovine spongiform encephalopathy in a cow that presented with abnormal nervous signs. Brain samples were submitted for Prionics testing and histology. The Prionics test was negative for prions, and no suspicious lesions were found on histological examination of the brain. The cause of the abnormal nervous symptoms was attributed to tutu (*Coriaria*) poisoning.

Vesicular diseases excluded

A veterinary practitioner suspected that scabs on the ears of two piglets may have been vesicles. Questioning of the practitioner and farmer revealed that these were the only piglets on a 200-cow dairy farm. Both piglets were healthy. Their ears showed generalised erythema and there were no oral, snout or foot lesions. There was no illness present in the cattle. The farmer reported the piglets had previously been housed, but were allowed outside ten days before the signs appeared. Both piglets made an uneventful recovery. Solar dermatitis was the most likely aetiology.

A veterinarian reported the death of a 15-month-old bull during veterinary examination. The animal had been sick for five days, showing bilateral serous ocular discharge, but was in good condition. The bull was breathing hard and after a short struggle in the yards collapsed and died. At necropsy, the tongue had erosive lesions, and pneumonia involved the whole of the anterior lobe of the lung and ventral aspects of the other lobes. The lung lesions were sufficiently extensive to have resulted in the death of the animal. Bacteriology produced no pure growth of any organism. The only isolates were believed to be contaminants. Histopathology revealed an acute fibrinonecrotic bronchopneumonia. No specific cause for the tongue erosions was identified, but the lesions were not consistent with vesicular diseases.

A piglet with lesions on its snout and feet walked onto the property of a veterinary nurse. She took the piglet to work where the practice veterinarian suspected exotic disease and reported the lesions to MAF. An AgriQuality veterinarian who examined the piglet ruled out exotic vesicular diseases. The lesions consisted of cuts and abrasions, probably caused by fighting, and inflammation caused by sunburn.

Equine infectious anaemia and equine viral arteritis excluded

A 13-year-old gelding was presented with oedematous limbs. Paired blood samples for serology ruled out equine viral arteritis (EVA), equine infectious anaemia (EIA), *Babesia caballi* and *Babesia equi*.

An eight-year-old Welsh pony was presented with oedematous

limbs. Paired blood samples for serology ruled out EVA, EIA, *Babesia caballi* and *Babesia equi*. Buffy coat smears were negative for *Ehrlichia equi*.

A four-year-old Standardbred horse developed swollen and painful legs. The horse was pyrexia and lame. Four other horses in the same paddock appeared healthy. Paired blood samples for serology ruled out EVA, EIA, *Babesia caballi* and *Babesia equi*. Buffy coat smears were negative for *Ehrlichia equi*.

A pathologist reported possible EVA when presented with samples from a horse with a case history of distal and ventral oedema. Serology was negative to EVA. The veterinarian suspected an allergic reaction.

In each of the above cases the horses recovered with treatment.

Brucella canis excluded

A five-year-old New Zealand Huntaway dog was presented with a swollen testicle and was castrated. *Brucella canis* was ruled out with a negative card test. An interstitial cell adenoma was diagnosed histologically, together with chronic active fibrinous periorchitis and a focal lympho-plasmacytic interstitial epididymitis.

A 14-year-old Huntaway dog was presented with a firm painful testicle and was castrated. Histology showed an acute to subacute bacterial orchitis and tunica vaginitis. The bacteria seen were not consistent with *Brucella canis* and were believed to be coliforms. *Brucella canis* was ruled out with a negative card test.

A four-year-old Huntaway dog was presented with enlarged testicles. The dog responded to treatment, and a *Brucella canis* card test was negative.

Ehrlichia canis excluded

A 12-year-old male Border collie developed anaemia and fever. The dog had been imported from South Africa ten months earlier. On arrival the dog was quarantined for four months, and tested negative for *Ehrlichia canis*. The immunofluorescent antibody test for *Ehrlichia canis* was repeated and remained negative.

A blood sample from a healthy two-year-old Fox terrier was submitted for export testing. Although an immunofluorescent antibody test for *Ehrlichia canis* returned positive results, *Ehrlichia canis* was excluded on the basis of a negative PCR test carried out at Ohio State University, USA.

Hydatid disease excluded

A farmer found a cyst attached to the liver of a sheep during a

home-kill. Histopathology provided a morphological diagnosis of multifocal parasitic granuloma. These lesions are believed to represent necrotic parasitic larvae. If larvae die as they course through the liver, the parasitic remnants initiate a granulomatous foreign body reaction. Hydatid cyst of *Echinococcus granulosus* was excluded.

Psittacine poxvirus excluded

A member of the public reported that the six rosellas that regularly visited her property had disappeared. One was found dead and was submitted to the laboratory as part of ongoing psittacine poxvirus surveillance. No poxvirus lesions were found.

European foulbrood excluded

Routine surveillance of an apiary on two occasions found signs consistent with European foulbrood. Larval samples were submitted both times, and both polymerase chain reaction (PCR) and bacterial culture were negative for *Melissococcus plutonius*.

Samples of comb with abnormal brood were submitted for bacterial culture and PCR testing. These tests excluded *Melissococcus plutonius*.

A nationwide survey for small hive-beetle provided opportunities for additional exotic disease surveillance. Larval samples were collected from hives with signs consistent with European foulbrood. Bacterial culture and PCR were negative for *Melissococcus plutonius*. Samples of bees collected were positive for *Varroa destructor* and negative for both tracheal mite and small hive-beetle.

Varroa mite excluded

Four swarms of bees were trapped during South Island varroa surveillance. All samples were negative for *Varroa destructor*, *Tropilaelaps*, *Acaraps woodi* and *Melissococcus plutonius*.

An eight-legged arthropod found on a honeybee and submitted for identification was identified as an aphid, probably *Myzus persicae*.

Tracheal mites excluded

Tracheal mite was suspected on the basis of a collapsed beehive with a full box of honey. Bee samples collected from all remaining hives in the apiary were all negative for external and internal mites.

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