



MEDICAL NEWS

Aleutian Mink Disease in the Domestic Ferret

by Leo V. Gates, III, DVM

This article is to inform you of the recent (last 8 to 10 months) problems we have experienced with this disease in a contained population of ferrets. To the best of our knowledge, this outbreak is contained and is NOT a threat to your household ferrets.

Aleutian Mink Disease (AD) is a parvo virus that typically causes disease in MINK. The disease was named after a color-type of mink called aleutian. In aleutian colored mink, this disease is very devastating causing serious losses of unborn mink (abortion), early neonatal deaths and morbidity of adults. In mink this disease often causes hemorrhagic pneumonia which results in death and severe neurologic problems, which we call paresis. This is a severe weakness, starting in the rear limbs and ascending to the front limbs, which leaves the mink unable to walk. There is a test for this disease and most mink producers test for it to eliminate it from their farms. There is no treatment for the disease and no vaccines that work against it.

Now for FERRETS; they also can catch AD but it never causes disease/illness, so say the authorities/textbooks/previous experiences. Typically, AD affects up to 10% of ferrets in most parts of the country with NO OBVIOUS EFFECTS. Up to now, AD has not been a clinically important disease. Occasionally a veterinarian would diagnose this problem only if no other causes of illness could be found, the ferret tested positive for AD, and the ferret had an otherwise unexplainable "wasting syndrome" resembling an immune system failure (these diagnosis have always been questioned by others).

During the end of 1997 and spring of 1998, we at our hospital were presented animals with a disease that was causing severe coughing with some animals acquiring a collapsed right cardiac lung lobe, some animals developing paresis (neurogenic weakness) starting in the rear limbs and progressing forward to the front limbs and some animals developing cerebellar lesions. Many animals had to be euthanized because of humane reasons. These animals were autopsied and found to have hemorrhagic type pneumonia and severe lesions in the spinal cords and brains. These tissues contained *Viral Inclusions* suggesting a viral origin. Many of the other organs also had lesions and viral inclusions.

Dr. Bruce Williams of the Armed Forces Institute of Pathology was sent some samples for a second opinion. His thoughts were that this looked like AD in mink and AD titers ought to be checked on the rest of the colony. Fifty one of 59 samples

tested positive. To date, about 20% of these positive ferrets have become seriously ill or died. Ferrets as young as one year of age have died from this disease. With the extensive help and support of Rick and Candi White of San Antonio Ferret Enthusiasts (S.A.F.E.), we were able to test several hundred ferrets that could have been exposed or carriers of this disease. [This includes retests.] We feel that the disease is contained.

With the gracious help of Dr. Marshall Bloom of the Rocky Mountain Laboratory for Persistent Viral Diseases (RM-LPVD), we were able to confirm that this is a virus. Dr. Bloom is working on the DNA make up of this virus to classify it. Dr. Bloom will also attempt to infect some Mink AND Ferrets to reproduce this disease in his laboratory to confirm that it is a strain of Aleutian Mink Disease. Currently, he has isolated five strains of AD from mink and is a well known specialist in this field of study.

We currently are not able to cure any of the ferrets with this virus. We hope that thorough and careful study of this outbreak will put us one step closer to a cure or vaccine.

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COMMENTARY

While in San Antonio recently, I took the opportunity to visit with some of the San Antonio ferret folk and the main ferret shelter for S.A.F.E. This shelter is closed due to the AD outbreak and will remain closed while AD positive ferrets are in residence. *AD positive ferrets are positive for their entire lives.* The majority of the ferrets are in good health and show no signs of disease. You would not know that the ferrets are AD positive. The only way to tell is to check for AD titers.

This disease did not originate in Texas, and there are no other known cases in the state. The four ferrets that introduced AD to the shelter came from Alabama and were surrendered because they were bad biters. They look to be of New Zealand descent, and all four jills were still intact (breedable).

If you take in ferrets, please take precautions. It is always a good idea to quarantine any new ferrets from unknown origins before introducing them to your colony or other rescues. Any ferrets imported from other countries should go through a minimum 30 day quarantine (and perhaps an AD test) for the safety of the new ferret as well as your own ferrets' safety.

by Vickie McKimmey, Chair Shows/Special Events