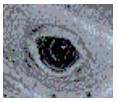

Melissa Kaplan's
Herp Care Collection
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Common Diseases of Bearded Dragons

Part 3: Adenoviruses

Roger Klingenberg DVM, *The Vivarium*, August/September 1998, 9(6)

In Parts 1 and 2 [in *The Vivarium*, 9(4) and 9(5)], I discussed the parasitic and nutritional diseases seen commonly in bearded dragons ("Pogona vitticeps). We discussed how bearded dragons are not always "bullet proof" lizards. As if these afflictions weren't enough, an adenovirus is now being diagnosed with increasing frequency. While this virus appears to primarily take advantage of the young and weak, all ages can be affected. Let's discuss some aspects of this viral disorder.

Adenovirus disease in bearded dragons is poorly understood for the same reason many reptile disorders are not well delineated -- lack of funding for critical research. Here's what we know.

Signs of Adenovirus Infection:
In bearded dragons that are sick with adenoviruses, there are unfortunately no specific signs to watch for. Most of the bearded dragons that have been diagnosed with adenoviruses have had a history of being poor doers, sometimes showing poor appetite, and sometimes exhibiting diarrhea. Sometimes, they die. The young, especially those four to 12 weeks of age, appear to be affected more often than older specimens.

Rather vague signs, wouldn't you say? A typically affected lizard would be difficult to differentiate from those with coccidiosis, or hypocalcemia without muscle twitching. To further complicate matters, we can mix and match disorders. A young bearded dragon with adenovirus could also have coccidia that may or may not be causing problems at that moment. The young dragon could, or would, certainly develop nutritional disorders, including hypocalcemia as poor food intake (anorexia) becomes a factor. These mix and match scenarios could go on and on, with one factor affecting another or making no difference. It's important to know if adenovirus is present in a sick dragon, but how do we accomplish this task?

Diagnosing the Disease:
The only currently available method to diagnose adenovirus is, unfortunately, by necropsy (animal autopsy). *[MK 2007 Note: See updated info on testing and treatment.]* Most of the dead bearded dragons with adenovirus infection do not demonstrate significant gross (visual) abnormalities of the internal organs. It is only with histopathology (examination of tissues and cells with a microscope) that the presence of intranuclear inclusions (material characteristic of virus infections) are found, primarily in dead areas of the liver. Such inclusions are presumptive evidence of adenovirus, but electron microscopy is required to confirm the diagnosis by demonstrating typical virus particles.

Before you jump to the wrong conclusion, this is not the same inclusion body disease that affects boids and pythons. Both are viral diseases, but evolve entirely different groups of viruses. The only similarity is the potential usefulness of a liver biopsy as a diagnostic test, which could be done prior to the animals' death. While the technology exists to produce a serologic test (a simple blood test), this won't happen until it is demanded by you, the bearded dragon owners and veterinary clients.

Outcomes:
Do all bearded dragons exposed to adenoviruses die? No, some become chronic poor doers that come around slowly, but can eventually recover, or at least appear to recover. How long does a bearded dragon that has recovered from adenovirus disease carry and shed the virus? No one knows. Supportive care techniques including force feeding, fluids, and occasionally antibiotics for secondary infections will increase the survival rate of those affected.

What else do we know? The route of transmission has not been determined, but is most likely by fecal and/or oral exposure. There are lots of questions without answers at this point in time. As always, we'll do our best to keep you informed as new information becomes available.

The Bottom Line on Dragon Health:
Bearded dragons -- bullet proof? Obviously not. However, bearded dragons are very hardy lizards and in no way am I discouraging a potential owners from pursuing their opportunity to own and care for one of the best lizard species. My family's bearded dragon is the easiest lizard to care for that we've ever had. These lizards are extremely entertaining, gentle, and well-suited for lots of hands-on activities.

Purchase your dragon from a reputable source. Every new dragon owner should have their lizard examined by an experienced reptile veterinarian. At the very least, the lizard needs a fecal examination for parasites. Eliminate any and all parasites. Quarantine (for parasites and viral diseases) any new bearded dragons for a minimum of two to three months.

If you own a group of bearded dragons and one dies, then refrigerate it until it can be necropsied by your reptile veterinarian. There is no use guessing what happened to it when you can know for certain. It may be cheaper in the short run to simply replace a dead lizard with a new one, than to pay for medical tests. But to do so puts a new dragon at risk, or adds a risk to an already established group. If we work together, there should be plenty of healthy bearded dragons to go around.

Acknowledgement: The author thanks Dr. Dan Wentz's help in discussing adenovirus outbreaks he has dealt with in his practice.

www.anapsid.org/adenoviruses2.html

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