

ADENOVIRUS IN BEARDED DRAGONS



Adenovirus, specifically Agamid adenovirus-1 (AAAdV-1), is a DNA virus from the genus Atadenovirus.

It is considered a natural virus of bearded dragons, meaning it has evolved with them over millennia. Many wild and captive bearded dragons carry the virus without showing any signs of illness (asymptomatic carriers).

How common is it?

Adenovirus is very common in bearded dragons globally.

- A study on wild Australian bearded dragons found that about one-third were carrying the virus.
- In some commercial breeding facilities in the USA, prevalence has been reported as high as 80%.
- In Australia, it is estimated that 50% of captive collections have tested positive for the virus.
- In Japan, studies have shown a prevalence of 56.8% in healthy captive dragons and 58.3% in those with respiratory signs, suggesting the virus is widespread.
- A UK study found a prevalence of 18.5% in a small sample of clinically healthy dragons.

How is it spread?

Transmission is primarily through the faecal-oral route, meaning the virus is shed in the faeces and can be ingested by other dragons through contaminated food, water, or environment.

Clinical signs

While many dragons carry the virus without issues, it can cause disease, particularly when the animal is stressed, or its immune system is compromised. The virus primarily affects the liver, gastrointestinal tract, and central nervous system.

Clinical signs are often non-specific and can include:

- Lethargy, weakness, and ill-thrift.
- Loss of appetite (inappetence) and weight loss.
- Diarrhoea or abnormal faeces.
- Neurological signs such as head wobbling, tremors, circling, or seizures.
- Sudden death, especially in young (hatchling and juvenile) dragons.
- In some cases, signs of severe liver disease can occur.

Why does it cause disease?

The virus typically remains dormant and only causes problems when the dragon's immune system is suppressed. Stress is the primary trigger.

Common stressors include:

- Suboptimal husbandry: Incorrect temperatures, humidity, or lighting (UVB).
- Poor nutrition.
- Overcrowding and competition for resources, common in young dragons from large breeding facilities.
- The stress of moving to a new home.
- Concurrent infections with other parasites (like Coccidia or pinworms) or bacteria.
- Poor genetics from inbreeding.

Juveniles are particularly susceptible as their immune systems are still developing, and they are often exposed to multiple stressors during early life.

Diagnosis

- Diagnosis is typically made via a PCR (polymerase chain reaction) test on a combined oral and cloacal swab.
- Blood samples can also be tested but swabs are generally more reliable for detection in apparently healthy animals.
- In deceased animals, diagnosis can be confirmed through histopathology (microscopic examination of tissues, especially the liver and intestines), which may show characteristic intranuclear inclusion bodies.

Treatment & Management

There is no specific cure or antiviral treatment for adenovirus. Management focuses on providing excellent supportive care to help the dragon's immune system control the virus.

- **Optimise Husbandry:** This is the most critical factor. Ensure the enclosure provides the correct temperature gradients, a proper basking spot, and adequate UVB lighting. Maintain scrupulous hygiene by removing faeces daily to reduce viral load in the environment.
- **Nutrition:** Provide a balanced, species-appropriate diet to support the immune system.
- **Supportive Care:** If the dragon is unwell, veterinary care may include fluid therapy, nutritional support, and treatment for any secondary bacterial or parasitic infections.
- **Quarantine:** New dragons should be quarantined for a minimum of 6 months before being introduced to an existing collection. Testing during this period is recommended. Keep quarantined animals in a separate room with no shared airspace or equipment.

Should i test my dragon?

Testing is recommended if you plan to breed your dragon or introduce it to other dragons. A positive test in a clinically healthy animal means it is a carrier. This does not mean it will get sick, but it can pass the virus to other dragons. For a solitary pet, a positive test result changes very little, as the focus remains on providing excellent husbandry to prevent the virus from causing disease.

Should i breed a dragon with Adenovirus?

This is a debated topic. Given the high prevalence of the virus, avoiding it entirely can be difficult. The most responsible approach is to focus on breeding strong, healthy animals and being transparent about their health status.

Breeding an adenovirus-positive animal is less of a concern if the owner of the offspring can provide impeccable husbandry, which is the key determinant of whether the virus will cause disease. Breeding adenovirus-free animals has become a marketing point, but it does not replace the fundamental need for proper care.



In Conclusion:

Adenovirus is a widespread and natural virus in bearded dragons. It is not a death sentence. The vast majority of infected dragons can live long, healthy lives as asymptomatic carriers.

The key to preventing adenovirus from causing disease is to minimise stress through excellent husbandry and nutrition.

If you are concerned about your dragon, please contact us for a consultation.

We are here to support you and your pet every step of the way!

References:

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