

HOW I TREAT HERPESVIRUS IN TORTOISES

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Herpesvirus causes lesions in the mouth and choana of tortoises and may also cause a more generalized illness. The herpetic tortoise is often reluctant to eat or drink, has a runny or crusty nose, has drool or a crusty mouth, has an audible whistle or gurgling nose while breathing, and may open-mouth breathe or gape. You may see white or yellow material lining the inside of the mouth and tongue. Other signs are closed or swollen eyes, lethargy, and hiding a lot. In rare cases, a tortoise may circle or have uncoordinated movement. Some tortoises die without obvious signs.

All species of tortoises are susceptible to herpesvirus infection. However, it is more commonly a problem with Russian tortoises (*Testudo horsfieldii*) and Greek tortoises (*Testudo graeca* spp.) that are still imported from the wild in large numbers. Since herpesviruses can live quietly in a tortoise and erupt when the tortoise is under any stress, it can even cause illness in long-term captives. Even captive-bred tortoises have herpesviruses and may be asymptomatic carriers. There is no such thing as a *Testudo* that is guaranteed to be free of herpesvirus.

I typically recommend bloodwork, fecal parasite exam, urinalysis, and radiographs to assess an ill tortoise's overall health and rule out other causes for the illness. Although it is difficult to definitively identify herpesvirus, the clinical signs are classic in most tortoises. I will clean and debride the plaques lining the mouth and often flush the choana with an antibiotic and anti-inflammatory solution (2.27 mL enrofloxacin, 0.4 mg dexamethasone sodium phosphate, and 0.8 mL saline). This may be needed every 48 to 72 hours. I start antiviral therapy with a drug called acyclovir (80 mg/kg PO SID) using a compounding pharmacy so that the

drug is delivered to the client's house by mail. (In Arizona, there are many compounding pharmacies so a client may drive to pick up the acyclovir.)

Enrofloxacin (10 mg/kg IM SID) may be needed to manage bacterial infections that develop in areas damaged by the virus such as the mouth and upper airways. Oral lysine has been proven to help manage mammalian herpesvirus so I have started offering Viralyse (1.25 mL/kg PO SID) as part of the treatment. Tube-feeding or an esophagostomy tube may be needed for administration of oral medications, liquid diet, and anti-inflammatories such as Metacam (0.1–0.2 mg/kg PO SID). Some tortoises may need to be hospitalized so I may do more aggressive treatments such as daily debriding of the mouth, regular fluid therapy, nebulization, and different antibiotics.

A tortoise's chances depend on how long it was sick before treatment was started and whether or not it has any other ongoing disease such as parasites or malnutrition. Advanced cases in which the tortoise has been sick long enough to lose weight carry a poor outlook. With early detection and aggressive care, over 90% of tortoises recover with proper care at home. If there are other tortoises in the home, it is likely that they have already been exposed to the herpesvirus, or were themselves the carrier that infected the sick tortoise, and should be closely watched for signs of illness.

Isolate the sick tortoise and all tortoises that have had close contact with it. Chlorine bleach diluted 1 part to 30 parts water is very effective disinfectant for tools, water bowls, and cages. Outdoor enclosures with dirt and plants are likely contaminated for a year or more and should not be used to house clinically healthy tortoises. A client should wear disposable gloves or wash hands with warm water and soap after handling an infected tortoise and should not wear the same shoes when servicing an infected enclosure as when they service pens of healthy tortoises.

A client handout with treatment instructions for herpesvirus in tortoises is shown in Figure 1.

Figure 1. Client handout on herpesviruses in tortoises.

TREATMENT OF INSTRUCTIONS FOR HERPESVIRUSES IN TORTOISES

Herpesvirus spreads by direct contact between infected tortoises. All *Testudo* carry herpesvirus which can be deadly to different species of tortoises. Aggressive medical management is necessary for treatment. Despite this, some tortoises do not survive.

My tortoise's drug treatment plan is as follows:

ANTIVIRAL DRUG:

Acyclovir (____ mg/mL) — Give ____ mL by mouth once daily for ____ days.

ANTIBACTERIAL DRUG:

Enrofloxacin (____ mg/mL) — Give ____ mL by injection into the muscle once daily for ____ days. Alternate injection sites each time.

OR

_____ — Give ____ mL by injection into the muscle every ____ hours for ____ days. Alternate injection sites each time.

OR

_____ — Give ____ mL by mouth every ____ hours for ____ days.

INTRACOELOMIC FLUID THERAPY:

Give ____ mL of reptile fluids into the body cavity every ____ hours for ____ days.

OTHER MEDICATIONS:

OTHER TREATMENTS: