

Infectious Stomatitis (Mouth Rot) in Reptiles



Stomatitis refers to an inflammation of the mouth, "stoma" indicating an opening, cavity or mouth and "itis" being the Latin suffix for inflammation. Most often referred to with regard to snakes, stomatitis is seen in all reptiles. Stomatitis is one of the conditions included in the group, "Upper Alimentary Tract Disease (UATD)," which includes any pathologic condition that affects the oral cavity, pharynx, or esophagus.

What causes infectious stomatitis?

Infectious stomatitis usually occurs as a response to stress such as an inappropriately temperature-regulated environment, overcrowding, internal or external parasites, trauma, or especially, poor nutrition. Vitamin C deficiency and inappropriate calcium/phosphorous levels in the diet have been implicated. Any of these stresses suppress the immune system of the reptile and make it much more susceptible to infections. Many pathogens can cause infectious stomatitis including bacteria, viruses, and

fungi. *Pseudomonas*, *Aeromonas*, *Salmonella*, *Klebsiella*, and *Mycobacterium* are bacterial causes.

What are the clinical signs of infectious stomatitis?

Signs of mouth rot can vary in number and degree, depending on the stage of infection. Anorexia, purulent discharge (pus) in the mouth, excessive mucous (salivation) in the mouth, swelling or reddening around or in the mouth, inability to close the mouth, reduced or absent tongue flicking, and gingival swelling or necrosis may all be seen. The lining of the mouth can become eroded and often develops a "cottage cheese" appearance that is either yellow- or whitish-gray in color. In severe cases, it may look very much like the mouth is rotting away, hence the common name for this condition - mouth rot.

In extremely advanced cases, the head may be swollen; the infection may spread to the jaw and/or cranium (skull); teeth may become loose; and pneumonia may develop from aspiration of bacteria. Bacteria may also travel up what is called the hardarian duct, a pathway connecting the inside of the mouth to a sinus near the eye. In this case, the eye may become infected and swell. If not treated quickly and aggressively, the eye may be lost to infection.

The intestinal lining may become inflamed (enteritis) as a result of the ingestion of necrotic material that has broken off from an area of plaque in the mouth. In areas where necrosis and ulceration is especially deep, a blood clot may form that is loaded with bacteria and released into the bloodstream with a resultant septicemia (bacterial infection in the bloodstream).

How is infectious stomatitis diagnosed?

Often, the diagnosis of infectious stomatitis is fairly straight forward based on clinical signs, a **complete blood count (CBC)**, and culture of mucous and/or discharge. History can yield important clues in cases that are not yet obvious and the only symptom may be loss of appetite. A sample from the lesions is generally taken to determine if the cause is bacterial or fungal, and a sensitivity is performed. A biopsy may be taken if the condition is suggestive of cancer or does not respond to treatment.

What is the treatment for infectious stomatitis?

Because this disease is secondary to another condition, that condition should be identified, and treated at the same time the treatment of the stomatitis is initiated. Without addressing the underlying condition, the infection will most likely return once treatment is terminated.

In those instances where the stomatitis is diagnosed in its earliest stages, addressing husbandry and/or nutrition issues is often the first step. Sometimes something as simple as warming the environment will assist in the recovery of a mild case. The lesions are debrided (dead or dying tissue is removed), any abscesses are opened and drained, the area is repeatedly flushed with an antiseptic solution, and topical antibiotics or silvadene cream may then be applied. These procedures need to be repeated daily until the lesions are healed.

When there is considerable tissue involvement, surgery may be necessary to remove any affected bone or deeper tissues. In most cases, antibiotic therapy is best administered via injection, either intra-muscularly (IM) or directly into the affected areas.

Supportive care may include supplemental heat and respiratory support by way of humidification. Nutritional supplements may be injected into prey foods that are offered. Tube feeding is generally used as a last resort.

How is infectious stomatitis prevented?

The importance of proper nutrition and husbandry cannot be overstated. Reptiles, in fact most exotic species, do not show signs of illness until the disease or infection is quite advanced, necessitating more aggressive treatment, and making a positive outcome more questionable. The needs of each species of reptile vary remarkably and should be researched before acquiring an animal. Under proper husbandry condition, with proper attention to nutrition and environment, infectious stomatitis will not be a problem.