

Idiopathic Trigeminal Neuropathy

A. Courtenay Freeman, DVM

Marc Kent, DVM, DACVIM (Small Animal and Neurology)

Scott J. Schatzberg, DVM, PhD, DACVIM (Neurology)

BASIC INFORMATION

Description

Trigeminal neuropathy is a disorder that affects the fifth or trigeminal nerve of the head and the muscles of the jaw. It has also been called *idiopathic bilateral mandibular nerve paralysis*. Twelve pairs of nerves (one on each side of the head) originate at the base of the brain and are responsible for certain neurologic functions of the head and face. These nerves are called *cranial nerves*, and they are numbered I through XII. The fifth cranial nerve (V) is the trigeminal nerve, and it is responsible for the muscles involved in chewing, as well as sensation (feeling) in the face.

Causes

The term *idiopathic* indicates that the cause of the condition is unknown. Although some cases of trigeminal nerve disease have an identifiable origin (such as infections, tumors, inflammation of the brain), in this disease the cause is not defined. It is speculated that either inflammation or an immune reaction may cause dysfunction and paralysis of the nerve. All common causes of trigeminal nerve dysfunction must be ruled out in order to call the condition *idiopathic*.

Clinical Signs

Trigeminal neuropathy results in paralysis of the muscles of the jaw. If both sides of the head are affected, the lower jaw (mandible) hangs open and the animal is unable to close the mouth. This appearance is referred to as a “dropped jaw.” In most instances, the animal is unable to eat. Over time, the muscles on the top and sides of the head (cheek area) often shrink and the bones of the skull become more obvious. Some animals lose feeling on their face. When touched near their eye, they do not blink even though the eyelid muscles work well and they can blink voluntarily.

Rarely, affected animals also have other eye abnormalities, such as drooping of the upper eyelid, sinking of the eyeball, and

movement of the third eyelid so that it partially covers the eye (Horner’s syndrome). Vision remains normal.

Diagnostic Tests

Diagnosis is based on examination findings and exclusion of other diseases that affect the trigeminal nerve. Other potential causes must be investigated before a diagnosis of idiopathic trigeminal neuropathy can be made. A thorough physical examination, routine laboratory tests, and x-rays may be recommended to search for a cause. Advanced imaging of the brain by magnetic resonance imaging (MRI) or computed tomography (CT scan) may also be recommended to exclude other diseases.

TREATMENT AND FOLLOW-UP

Treatment Options

No specific treatment exists for trigeminal neuropathy; however, supportive care is very important. The animal may require assistance with eating and drinking, because it is unable to take in food and water on its own. Insertion of a feeding tube may be considered in some animals to provide adequate nutrition. If the animal does not blink often, lubricating ointments may be applied to the eyes.

Follow-up Care

Recheck visits are usually recommended periodically to monitor for improvement in clinical signs and to assess body weight and the nutritional status of the animal.

Prognosis

Prognosis for recovery from trigeminal neuropathy is good. Most animals regain nerve function in 2 to 4 weeks; however, a full recovery may take several months. Some animals recover only partially, and occasionally trigeminal nerve function does not return.