Idiopathic trigeminal neuritis is the most common neurologic cause of acute, flaccid mandibular paralysis, or “dropped jaw.” The pathology affects primarily the mandibular branch (i.e., motor efferent to the muscles of mastication) of the trigeminal nerve; however, the sensory afferents can also be affected. Microscopically, idiopathic trigeminal neuritis is described as a bilateral nonsuppurative neuritis mainly associated with demyelination and, less commonly, axonal loss. It occurs most often in middle-aged or older dogs and occasionally in cats. (Because the condition is rare in cats, this article discusses dogs only.) The condition is self-limiting and completely resolves in 2 to 6 weeks with supportive care alone.

Because idiopathic trigeminal neuritis is an ante-mortem diagnosis of exclusion, careful consideration of other diagnostic differential is paramount. The most important differential is rabies; any animal exhibiting mandibular paralysis is initially isolated and handled with caution. Other major differentials include neoplasia, trauma, and other infectious diseases. Animals with additional clinical signs that are not solely related to the trigeminal nerve and patients that do not recover within 6 weeks should receive a more comprehensive diagnostic evaluation.

**DIAGNOSTIC CRITERIA**

**Historical Information**
Acute onset of nonpainful mandibular paralysis, which is bilateral paralysis of the masticatory muscles that affects the mandibular branch of the trigeminal nerve.

**Gender Predisposition**
- None.

**Age Predisposition**
- The condition can occur in dogs of any age, but middle-aged to older animals are usually affected.

**Breed Predisposition**
- Any breed can be affected.
- In one retrospective study of 29 dogs, golden retrievers were overrepresented.

**Owner Observations**
- Dropped jaw (Figure 1).
- Inability to close the mouth.
- Difficulty eating.
- Drooling.

**Other Historical Considerations/Predispositions**
- One report suggests idiopathic trigeminal nerve paralysis is more common in the autumn.

**Physical Examination Findings**
- **Acute onset of jaw paralysis:** The mandibular branch of the trigeminal nerve, which innervates the muscles of mastication, is affected. Dysfunction of this nerve results in an inability to close the jaw.
- **Ptyalism** occurs secondary to the inability to close the jaw; saliva drops from the mouth because the jaw is open.
- **Dysphagia:** As a result of the inability to close the jaw, prehension is difficult, and dysphagia ensues.
- **Afebrile status:** The inflammation of the nerve is focal and does not cause a systemic response.
- **Preservation of facial sensation:** Facial sensation is usually preserved, but unilateral or bilateral sensory deficits may be seen.
- **Masticatory muscle atrophy** (Figure 1) may occur later in the course of disease. This finding is caused by neurogenic atrophy of the muscles of mastication.
- **Horner’s syndrome** (uncommon): Horner’s syndrome may occasionally be seen because postganglionic sympathetic fibers course with the ophthalmic branch of cranial nerve V.

**Laboratory Findings**
- **Complete blood count, serum chemistry profile, and urinalysis:** Normal. These tests are helpful in the evaluation of infectious disease, neoplasia, and hypothyroidism.
- **Infectious disease titers:** The following organisms are most commonly implicated in central nervous system (CNS) infections: Toxoplasma gondii, Neospora caninum, Cryptococcus neoformans, Ehrlichia canis, and Rickettsia rickettsii.
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TREATMENT RECOMMENDATIONS

Initial Treatment
- The condition is self-limiting; there is no known specific treatment. Most patients experience a gradual recovery over 2 to 6 weeks with supportive care.
In addition to supportive care, physical therapy should be provided.

**Alternative/Optional Treatments/Therapy**

- The use of corticosteroids has been advocated by some, but these drugs are not beneficial and thus are not recommended.

**Supportive Treatment**

- Transient use of loose-fitting tape muzzles or commercially available muzzles is useful to aid in the prehension of food for some patients.
- Some animals with significant dysphagia require assistance with ingesting food and water.
  - Firm balls of canned food should be placed on the back of the tongue to allow normal swallowing.
  - If the animal cannot lap adequate amounts of water to maintain hydration, water may be given orally with a syringe. A water bottle meant for rodents may also provide some benefit.
- In severe cases, a feeding tube (esophagostomy or percutaneous endoscopic gastrostomy) may be required temporarily.
- Physical therapy should be used to prevent masticatory muscle atrophy. This therapy includes opening and closing the jaw. Depending on the patient’s abilities, providing chew toys can be effective.

**Patient Monitoring**

- Hydration and caloric needs should be met.

**Home Management**

- The pet may need assistance with eating and drinking.
- Physical therapy should be provided as discussed above.

**Milestones/Recovery Time Frames**

- Most patients make a complete recovery within 2 to 6 weeks.

**Treatment Contraindications**

- Some practitioners consider corticosteroids contraindicated in patients that have not had a full diagnostic evaluation.

**PROGNOSIS**

- In general, the prognosis is good for a full recovery. Patients typically gradually improve over the course of 2 to 6 weeks with supportive care.

**Favorable Criteria**

- Patients often improve within 2 to 6 weeks with supportive care alone.
- Less intensive supportive care is required if the animal can eat or drink with assistance.
- Other cranial nerve or neurologic deficits may suggest another inflammatory or neoplastic CNS disease.

**Unfavorable Criteria**

- If the patient does not improve within 6 weeks, the diagnostic differential should be reevaluated.
- Severe masticatory muscle atrophy shows an unfavorable prognosis.
- Dogs with sensory deficits may take longer to recover.
- Placement of a feeding tube may be associated with complications.

**RECOMMENDED READING**


