



## Canine Epilepsy: A Case Report and Management Strategies for Bruno

**Gautam Shukla\***

2nd Year, Arawali Veterinary College, Sikar Affiliated to Rajuvas and VCI, India

\*Corresponding Author: Gautam Shukla, 2nd Year, Arawali Veterinary College, Sikar Affiliated to Rajuvas and VCI, India.

DOI: 10.31080/ASVS.2024.06.0875

**Received:** April 08, 2024

**Published:** April 25, 2024

© All rights are reserved by **Gautam Shukla**.

### Abstract

Epilepsy is a common neurological disorder in dogs characterized by recurrent seizures. This case report presents the clinical manifestation, diagnostic approach, treatment modalities, and management strategies for Bruno, a dog diagnosed with epilepsy. The case highlights the importance of thorough diagnostic evaluation and tailored treatment plans for effective seizure control and improved quality of life in epileptic dogs.

**Keywords:** Epilepsy; Bruno; Magnetic Resonance Imaging (MRI)

### Introduction

Epilepsy is a chronic neurological disorder characterized by recurrent seizures resulting from abnormal neuronal activity in the brain. Canine epilepsy is one of the most common neurological conditions affecting dogs, with various breeds and age groups being susceptible. Despite advances in veterinary medicine, managing epilepsy in dogs remains challenging due to the heterogeneity of the condition and variable response to treatment. This case report aims to provide insights into the clinical presentation, diagnostic workup, treatment options, management strategies, pathogenesis, and control of epilepsy in dogs through the presentation of a hypothetical case involving Bruno, a 3-year-old male Boxer [1].

### Case Presentation

Bruno presents to the veterinary clinic with a history of recurrent seizures over the past six months. His owner describes generalized tonic-clonic episodes characterized by sudden loss of consciousness, tonic muscle contractions, paddling of limbs, and urinary incontinence. Seizure frequency has been increasing despite previous treatment attempts with phenobarbital.

### Clinical signs and symptoms

In addition to generalized tonic-clonic seizures, Bruno may exhibit prodromal or postictal signs such as behavioral changes, restlessness, disorientation, or temporary blindness. These signs may vary in duration and intensity between episodes.

### Pathogenesis

The pathogenesis of epilepsy in dogs involves complex interactions between genetic predisposition, abnormal neuronal excitability, neurotransmitter imbalances, and environmental triggers. Aberrant neuronal firing leads to synchronized electrical activity in the brain, resulting in seizures [2,4].

### Diagnostic workup

Based on the history and clinical presentation, a presumptive diagnosis of epilepsy is made for Bruno. Further diagnostic workup includes [3]:

Magnetic Resonance Imaging (MRI) of the brain to rule out structural abnormalities.

Cerebrospinal fluid (CSF) analysis to evaluate for infectious or inflammatory causes.

Electroencephalography (EEG) to assess brain wave patterns during interictal and ictal phases.

### Results

MRI reveals no structural abnormalities in Bruno's brain. CSF analysis shows no evidence of infectious or inflammatory processes. EEG demonstrates interictal epileptiform discharges consistent with epilepsy diagnosis.

### Treatment and control

Given the failure of previous treatment with phenobarbital alone, a multidrug approach is considered for Bruno. He is initiated on a combination of phenobarbital and potassium bromide, with careful monitoring of serum drug levels and clinical response. Additionally, dietary modification and adjunctive therapies such as acupuncture or cannabidiol (CBD) supplementation may be considered in refractory cases. Control of epilepsy in dogs involves balancing medication efficacy with tolerability and monitoring for adverse effects, while addressing potential triggers and comorbidities.

### Follow-Up

Over the following months, Bruno experiences a reduction in seizure frequency and severity with the adjusted medication regimen. Regular follow-up visits are scheduled to monitor treatment response, adjust medication dosages as needed, and address any emerging concerns.

### Conclusion

Canine epilepsy is a complex neurological disorder requiring comprehensive diagnostic evaluation and tailored management strategies for optimal seizure control. This case report of Bruno highlights the importance of a systematic approach to diagnosis, treatment, management, and consideration of pathogenesis in epileptic dogs to improve their quality of life and prognosis. Further research is warranted to explore novel therapies and better understand the underlying pathophysiology of epilepsy in dogs.

### Bibliography

1. Hugo J and Seizure E. "Veterinary Epilepsy: Diagnosis, Treatment, and Management". Wiley-Blackwell (2020).
2. Podell M. "Canine Epilepsy". *Veterinary Clinics of North America: Small Animal Practice* 47.2 (2017): 229-240.
3. Bhatti SF, *et al.* "Canine and Feline Epilepsy: Diagnosis and Management". CABI (2015).
4. Berendt M and Rusbridge C. "Canine and Feline Epilepsy: Diagnosis and Management". Manson Publishing (2012).