

Abstract

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## **Use of continuous electroencephalography for diagnosis and monitoring of treatment of nonconvulsive status epilepticus in a cat**

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**Case Description**—A 10-year-old domestic shorthair cat was evaluated because of presumed seizures.

**Clinical Findings**—The cat had intermittent mydriasis, hyperthermia, and facial twitching. Findings of MRI and CSF sample analysis were unremarkable, and results of infectious disease testing were negative. Treatment was initiated with phenobarbital, zonisamide, and levetiracetam; however, the presumed seizure activity continued. Results of analysis of continuous electroencephalographic recording indicated the cat had nonconvulsive status epilepticus.

**Treatment and Outcome**—The cat was treated with phenobarbital IV (6 mg/kg [2.7 mg/lb] q 30 min during a 9-hour period; total dose, 108 mg/kg [49.1 mg/lb]); treatment was stopped when a burst-suppression electroencephalographic pattern was detected. During this high-dose phenobarbital treatment period, an endotracheal tube was placed and the cat was monitored and received fluids, hetastarch, and dopamine IV. Continuous mechanical ventilation was not required. After treatment, the cat developed unclassified cardiomyopathy, azotemia, anemia, and pneumonia. These problems resolved during a 9-month period.

**Clinical Relevance**—Findings for the cat of this report indicated electroencephalographic evidence of nonconvulsive status epilepticus. Administration of a high total dose of phenobarbital and monitoring of treatment by use of electroencephalography were successful for resolution of the problem, and treatment sequelae resolved.