

FLUTTERING EARS: A NEW FORM OF MYOCLONIC EPILEPSY IN DOGS ?

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Myoclonic movements are sudden, brief, shock-like involuntary movements. The absence of other clinical signs during episodes, including autonomic signs, changes in consciousness may make it difficult to distinguish between epileptic and non-epileptic origins.

We present a case of focal myoclonus resulting in abnormal ear and neck movements in a dog.

PUPPY is an eighteen-month-old Dalmatian, pregnant for thirty-five days, presented for fluttering ears appeared within a few days, first for a few seconds, then almost continuously, when she is awake and when she is asleep. She may have been exposed to a Datura plant the week before the onset of myoclonus.

Clinical and neurological examination normal except ear fluttering and intense myoclonic bursts on the neck.

DIFFERENTIAL

Myoclonic epilepsy :

- Idiopathic Epilepsy (New onset Epilepsy during pregnancy)
- Structural Epilepsy (cerebrovascular accident, malformation)
- Reactive seizure (datura toxicity)

Non epileptic myoclonus :

- Meningoencephalomyelitis (Distemper)
- Cerebrovascular accident
- Intoxication (tremorgenic mycotoxin, datura, ...)

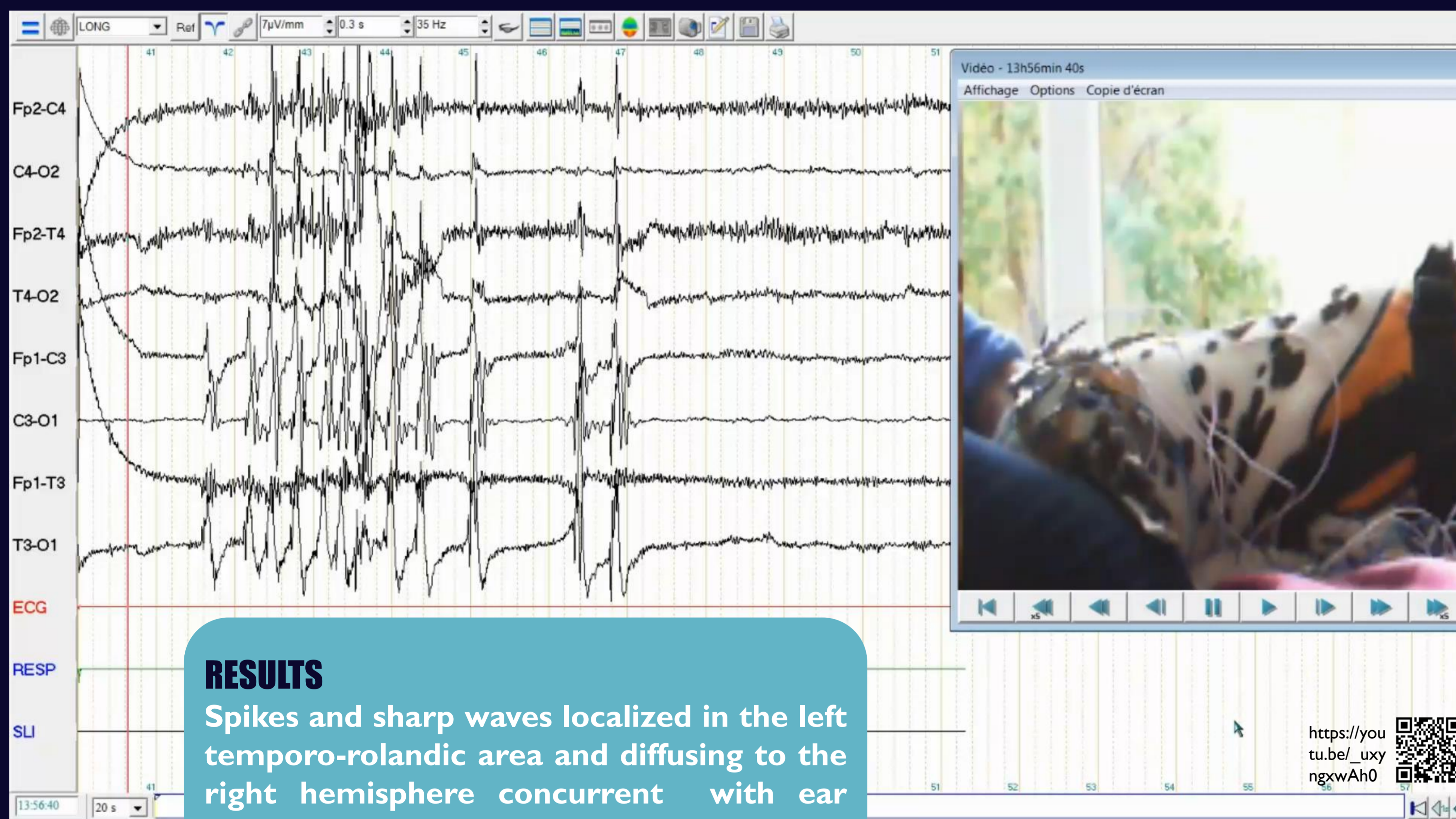


<https://youtube.com/shorts/2DH-DuIRy9Jg>

✓ Minimum data base blood tests and urinalysis (Tier I confidence level for the diagnosis of IE) **UNREMARKABLE**

Brain MRI and CSF analysis REFUSED BY THE OWNER (ANESTHESIC RISK)

✓ VIDEO EEG WITHOUT ANESTHESIA



RESULTS

Spikes and sharp waves localized in the left temporo-rolandic area and diffusing to the right hemisphere concurrent with ear movement and myoclonic jerk.

VIDEO EEG METHOD

Wired Deltamed® EEG device (Brainbox® 1042) with Coherence® software and synchronized webcam.

8 EEG surface electrodes, Ag/AgCl stud electrodes maintained with elastic straps, in which the electrodes were inserted and held in place by alligator clips of the electric cables.

Electrode placement based on the proposal of Pellegrino and Sica and James and al.

EEG during 35 min to 76 min.

No anesthesia

In the presence of the owner who facilitate its pet well-being and sleepiness.

TREATMENT AND FOLLOW UP

Phenobarbital (2,5 mg/kg/bid) was initiated and a reduction in seizure frequency was immediately observed, confirmed fifteen days later by a follow-up EEG. The dose of phenobarbital was increased to 3,5 mg/kg/bid, and the signs resolved. After six months without myoclonic seizure, phenobarbital was gradually stopped without relapse.

The dog gave birth without any problems and the puppies were healthy.



MYOCLONIC EPILEPSY

CLINICAL RELEVANCE

- This case illustrate the discriminative role of video EEG facing paroxysmal unusual recurrent events. Development of easy-to-use devices with surface electrodes should allow EEG to become a first-line exam in veterinary neurology as it is in human neurology.
- The etiology of Puppy's seizures remains uncertain :
 - The Datura plant (*Datura stramonium*) causes severe intoxication due to its parasympatholytic and anticholinergic alkaloids. This intoxication in pets resembles atropine intoxication, with tachycardia, mydriasis, dry mouth, ataxia, disorientation, convulsions, delirium and coma not observed in Puppy. Whether Datura could have been a triggering factor revealing Puppy's epilepsy remains questionable.
 - In human medicine, cases of new onset epilepsy during pregnancy have been reported (1,2). In our case, the question arises whether factors linked to gestation could have been a promoter of seizures.
- We wonder if this case is just an anecdotal case or if it could be a particular form of myoclonic epilepsy in specific canine breeds.
 - Although rare, about 25 cases of auricular myoclonus have been reported in humans with a variety of proposed etiologies depending on the type of investigations performed. In 2 cases structural epilepsy was demonstrated by EEG and brain MRI(3,4).
 - In dogs, only one case has been reported recently and also in a DALMATIAN in association with fungal and bacterial peritonitis. In this case, ears fluttering resolved without any other treatment than peritonitis cure (5).
 - Finally, we were told by French veterinarians in a professional website of three similar cases "phenobarbital responsive" observed in Golden Retrievers suggesting a possible breed predisposition in Golden Retriever as in Dalmatian.



<https://youtube.com/shorts/2fr9xBXuBk>

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