



Forehead Tremor: a clinical presentation of Ocular Myasthenia Gravis?

Sciacca G., Reggio E., Donzuso G., Nicoletti A., Patti F., Zappia M.

Department G.F. Ingrassia, Section of Neurosciences, University of Catania, Catania, Italy

Background: The clinical presentation of Myasthenia gravis (MG) with involuntary movements was observed in an exiguous number of cases. However, the association between MG and forehead tremor has not previously described. The case of a patient with MG, presenting with forehead tremor, is reported.

Methods: A 59-year-old man complained of rhythmic eyebrow movements for 7 months. Neurological examination showed bilateral ptosis and forehead tremor (Fig.1). SFEMG of Orbicularis Oculi (OO) muscle showed a jitter of 92 μ s. Brain-MR and chest CT were negative. Anti acetylcholine receptor antibodies titer was of 22 nmol/L (n.v. <0.45 nmol/L). Patient underwent tremor recording by surface electrodes on Frontalis (F) and OO muscles (Fig.2). Rhythmic bilateral activity of F muscles with frequency of 4-6 Hz was recorded. OO muscles activity was absent. Pyridostigmine 360 mg/daily was administered with improvement of clinical symptoms.

Results: Forehead tremor was described in Parkinson's disease, Essential Tremor and focal dystonia^{1,2}. The association between movement disorders, such as palpebral tremor and opsoclonus-myoclonus syndrome, and MG was also reported^{3,4}. We described a patient with forehead tremor as clinical presentation of MG. EMG tremor pattern is usually featured by alternating or synchronous contraction of agonist-antagonist muscles. Antagonist muscles activity was absent in this case. Ocular weakness in MG could explain the onset of forehead tremor as a compensatory act for keeping eyes open, since neurophysiological recording was not typical of tremor.

Conclusions: This is the first description of forehead tremor as clinical presentation of MG. When a patient presents with forehead tremor, with or without ocular symptoms, clinicians should consider MG in differential diagnosis, in order to start rapidly the adequate treatment.



Fig. 1 Bilateral ptosis in patient before pyridostigmine administration

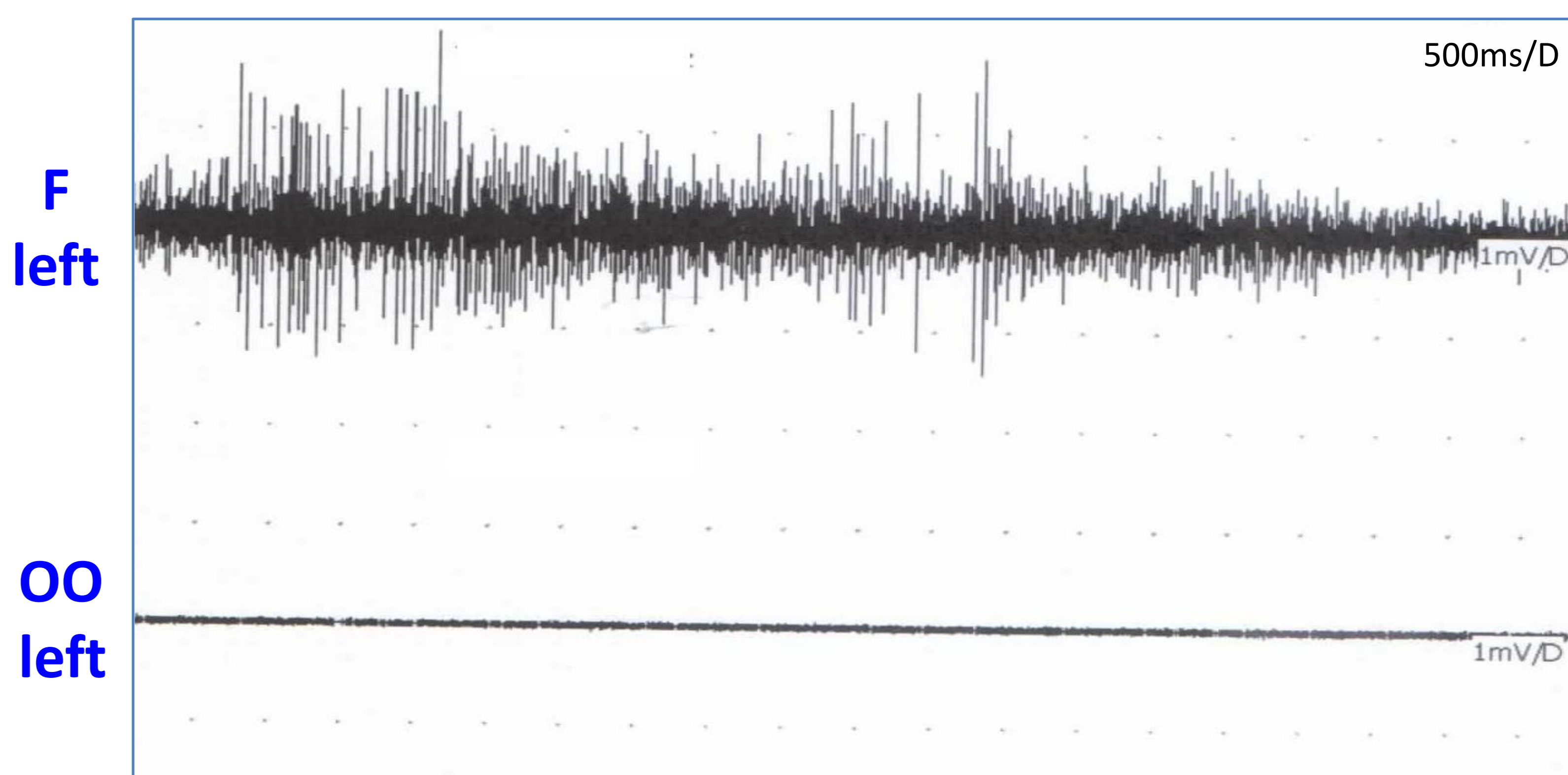


Fig. 2 Tremor recording by surface electrodes on Frontalis (F) and Orbicularis Oculi (OO) muscles

References

- 1) Gascón-Bayarri J et al. Unusual forehead tremor in four patients with essential tremor. *Case Rep Neurol Med* 2012; 2012: 278140.
- 2) Erro R et al. Facial tremor in dystonia. *Parkinsonism Relat Disord* 2014; 20(8): 924-925.
- 3) Ito S et al. Palpebral minor tremor in myasthenia gravis. *Nippon Ganka Gakkai Zasshi*. 1967; 71(1): 15-21.
- 4) Wilfong AA et al. Myasthenia gravis in a child with sequelae of opsoclonus-myoclonus syndrome. *Can J Neurol Sci* 1992; 19(1): 88-89.