Palatal and pharyngeal myoclonus as initial symptom of adult-onset Alexander Disease.

F. Masuzzo[1], E. Giorgio[2], D. Daniele[3], A. Brusco[2], L. Pinessi[1], G. Vaula[4]

Dept of Neurosciences - University of Turin[1] – Turin, Dept of Medical Sciences - University of Turin[2] – Turin, Neuroradiology Unit - University of Turin[3] – Turin, Città della Salute e della Scienza University Hospital[4] – Turin.

Introduction:

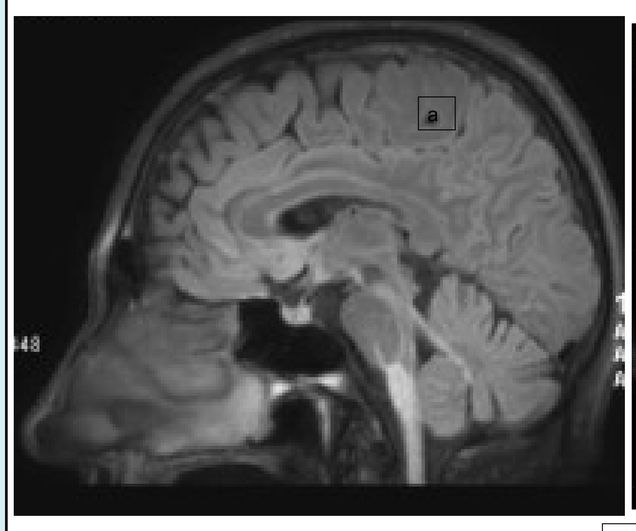
Alexander disease (AD) is a rare neurodegenerative leucoencephalopathy caused by mutations in the glial fibrillary acidic protein (GFAP) gene. Traditionally, AD has been classified in infantile, juvenile and adult form, according to the age at onset. Symptoms related to bulbar dysfunction and ataxia are most frequent presentations of the AOAD.

Case report:
A 61-year-old female was admitted to our institution for severe palatal tremor and balance impairment.

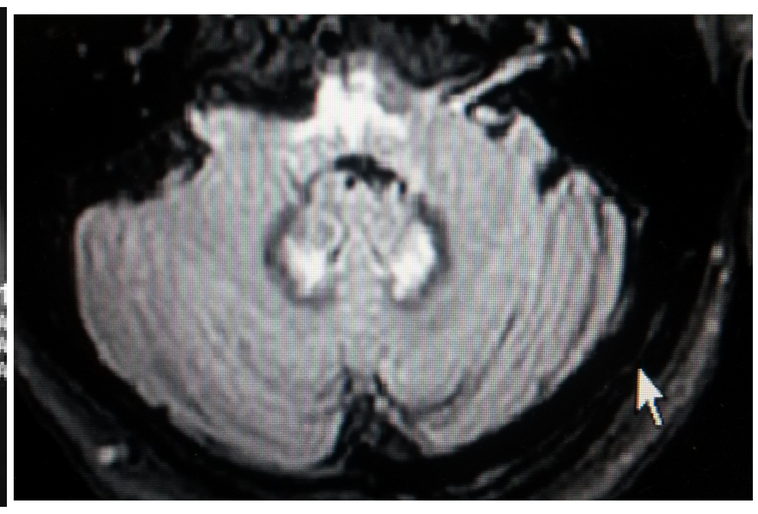
Neurological examination:
- ✧ gait ataxia
- ✧ palatal and pharyngeal myoclonus
- ✧ neck lateral deviation

Instrumental exams:
Fibroscopy: dysphagia and hypotonic upper esophageal sphincter
EMG: normal conduction velocities
3 T brain MRI and spinal cord with spectroscopy
✧Mild supratentorial symmetric white matter T2-hyperintensity **(a)**
- ✧ diffuse atrophy of the brainstem and upper cervical spinal cord **(b)**
- ✧ T2- hyperintense lesions in the ventral medulla oblongata and dentate nuclei**(C)**
- ✧ linear peripheral hyperintensity of the midbrain
- ✧ poor representation of the transverse pontine fibers at DTI sequences.
- ✧ Choline high concentration and N-acetylaspartate low levels

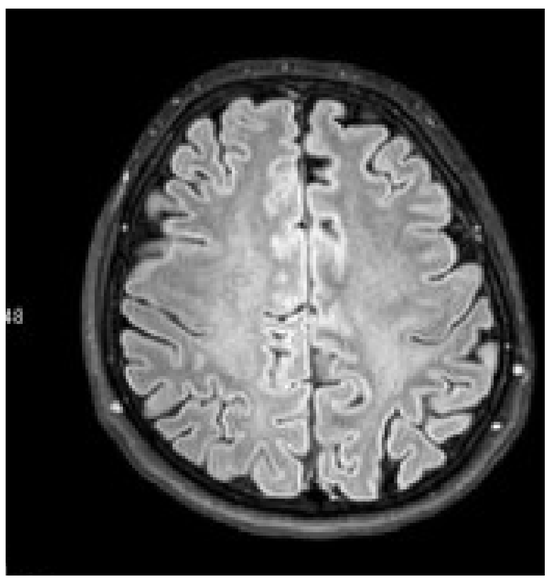
•**Genetic analysis of GFAP:** c.772C>T, p.Arg258Cys mutation



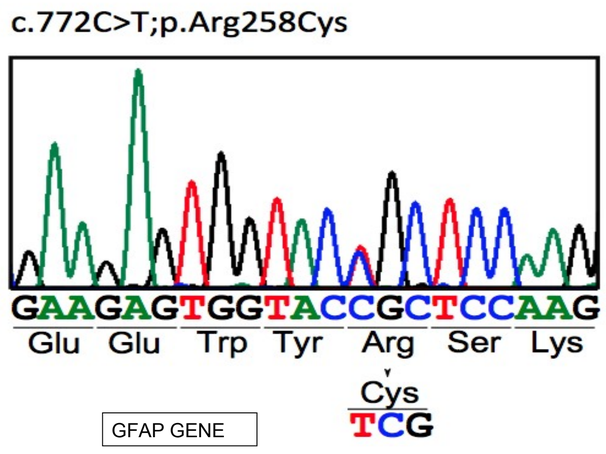
b



C



a



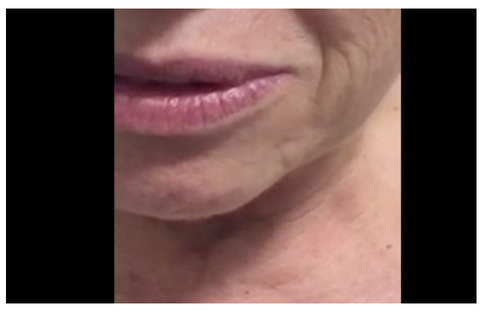
***Discussion*:**
•**Cases of adult-onset AD have been increasingly detected after the introduction of radiological criteria. (1)**

MRI criteria:
- ✧ extensive cerebral white matter abnormalities with a frontal preponderance (white matter atrophy or cystic degeneration);
- ✧ Presence of a periventricular rime of decreased signal intensity on T2-weighted images and elevated signal intensity on T1-weighted images;
- ✧ Abnormalities of the basal ganglia and thalami, either in the form of elevated signal intensity and some swelling or of atrophy and elevated and decreased signal intensity on T2-weighted images;
- ✧Brainstem abnormaiities, in particular involving the midbrain and medulla;
- ✧Contrast enhancement involving one or more of the following structures: ventricular lining, periventricular rim of tissue, white matter of the frontal lobes, optic chiasm, fornix, basal ganglia, thalamus, dentate nucleus, and brain stem structures;
- ✧Rarely ventricular garlands.

•**The Clinical picture of AOAD is mainly characterized by signs and symptoms of bulbar and upper cervical medulla disfunctions** (2):
- ✧progressive ataxia
- ✧ **palatal tremor**
- ✧ dysarthria
- ✧ dysphonia
- ✧ dysphagia
- ✧ spasticity
- ✧ Babinski sign

Less common but documented features:
neck extensors weakness, scoliosis, dysautonomia, muscle wasting, facial-neck-upper limb pain

Differential diagnosis include:
✧acquired posterior fossa lesions (tumors, superficial siderosis, inflammatory diseases)
Polymerase gamma (POLG) mutations(3)



link available on https://youtu.be/H3MzXsWvQN8

Conclusions:

Alexander disease Adult onset (AOAD) is more common than previously supposed.
Palatal myoclonus is strongly suggestive of AOAD, being reported in ***30%*** *of the letterature series.*

Supratentorial periventricular abnormalities in signal, frequently observed in patients younger than 40 years, are rarely seen in older patients.

On the contrary, MRI abnormalities involving both the inferior olives and the hilum of the dentate nuclei, are strongly indicative for AOAD, particularly when associated with palatal myoclonus, and should suggest the research of GFAP mutation.

Bibliography:

(1) Van der Knaap MS, Naidu S, et al. Alexander disease: diagnosis with MR imaging, AJNR Am J Neuroradiol, 2001, 22-541-52.
(2) Balbi P, Salvini S, et al. The clinical spectrum of late-onset Alexander disease: a systematic literature review, J Neurol, 2010, 257:1955-1962.
(3) Nicastro N, Ranza E, et al. Pure progressive ataxia and palatal tremor associated with a new polymerase gamma mutation, Cerebellum, 2015

Sin
XLVII CONGRESSO NAZIONALE
22-25 OTTOBRE 2016 – VENEZIA
WebPoster