The clinical spectrum of ataxia with oculomotor apraxia type 2

Florian Brugger, Georg Kägi, Hana You, Alain Kaelin-Lang, Michel Koenig, Jean-Pierre Delaunoy & Michael Schüpbach

Aim: To describe the broad clinical spectrum of ataxia with oculomotor apraxia type 2 (AOA2) in two cases.

Background: AOA2 is an autosomal recessively inherited disorder caused by mutations of the senataxin gene (9q34). Clinical spectrum comprises neuropathy, oculomotor apraxia, gait ataxia and choreatic or dystonic movements. First symptoms are usually noticed between the age of 10 and 25 years. Alpha-fetoprotein (AFP) is nearly always elevated.

Methods: Case 1 is a 56-year old female with disease onset around 35 years who came to medical attention with involuntary head movements which were interpreted as cervical dystonia. At that time, a CT scan of the brain was normal. After another 10 years she was referred due to progressive gait difficulties and problems with her eyes, which had developed over the past years. Clinical examination revealed gait ataxia and oculomotor apraxia and an MRI showed cerebellar atrophy.

Case 2 is a 35-year old man who was referred for mild gait ataxia. In childhood and early adulthood he experienced difficulties in doing sports. Dysarthria and gait ataxia developed in the third decade and remained mild until presentation. A DAT-scan was normal and MRI showed marked cerebellar atrophy. Electroneurography revealed pathologically low amplitude of the sensory potentials of the sural nerve.

Results: Current clinical examination of patient 1 reveals abnormal eye movements with impaired initiation of saccades and insuppressible vestibulo-ocular reflex, right-sided hemidystonia and gait ataxia. Current clinical examination of patient 2 shows a very mild phenotype with gait ataxia, cerebellar ocular signs without oculomotor apraxia, and right-sided akinesia during walking. Sensory neuropathy remains subclinical. In both patients serum levels of AFP are moderately elevated and the MRI shows cerebellar atrophy. Genetic testing has confirmed the diagnosis in both patients and has revealed a novel homocygote missense mutation (I1942T) of the senataxin gene in patient 1.

Conclusion: These two cases highlight the broad clinical spectrum of AOA2. While patient 2 represents a case of young onset cerebellar ataxia without ocular apraxia patient 1 with a novel missense mutation in the senataxin gene has a late disease onset far beyond 30 years with cerebellar ataxia, dystonia...
and severe oculomotor apraxia but without evidence for neuropathy. We conclude that genetic variability might be responsible for the broad spectrum of clinical presentation.

keywords

Ataxia with oculomotor apraxia, cerebellar atrophy, conference paper/poster (English)

name of conference

15th International Congress of Parkinson´s disease and Movement Disorders (Toronto)

date of conference

7-6-2011

pages

1 (Volume 26, S2, p6)

publisher

-