EPILEPTIC ENCEPHALOPATHY WITH MENTAL RETARDATION AND CEREBELLAR HYPOPLASIA: A CASE REPORT

A. Lorusso [1], A. Plutino[1], A. Pulcini [1], S. Luzzi [1], M. Silvestrini [1], L. Provinciali [1]

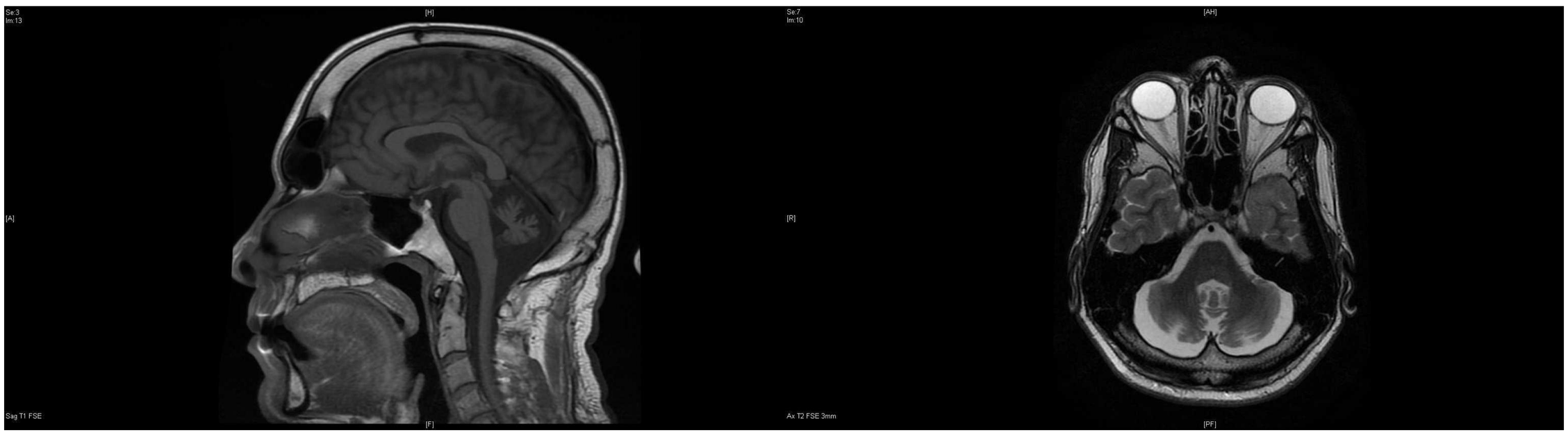
[1]Neurological Clinic, Department of Experimental and Clinical Medicine - Polytechnic University of Marche -Ancona

INTRODUCTION

We describe a 53-years old male showing an unusual phenotypic pattern characterized by oligophrenia , epilepsy, and progressive ataxia.

CASE REPORT

The patient was admitted to our hospital in relation to epileptic seizures unresponsive to treatment. A previous diagnosis of cerebral palsy was made and the patient was treated with phenobarbital and aloperidol for many years. A detailed clinical history revealed the patient was reported to be healty in the perinatal period and during the first two years of life. When he was two years old he developed epileptic seizures in absence of fever. During childhood a mild mental retardation was noticed with learning difficulties. Divergent strabismus appeared when he was about five year-old and required surgical treatment. He was able to walk and did not show gait and balance problems up to the puberty when he realized he was not able to ride a bike as he was used to do during his childhood. Gait disturbance progressively worsened and when he came to our attention he was not able to walk alone. On May 2016 semiology of seizures changed. They were characterized by cacosmia, loss of contact, gestural automatisms and orripilation. The duration of seizures was few seconds with a frequence of several per week. Neurological examination revealed a cerebellar syndrome with ataxia, dysmetria, freinage, cerebellar dysartria, kinetic tremor and nystagmus. The syndrome was bilateral and symmetrical. No other neurological focal sign were detected. Neuropsychological examination revealed a moderate mental retardation. Neuroimaging performed by means of MRI scan showed predominant vermian hypoplasia of the cerebellum. EEG showed:"global slowness of electrical activity;generalized sharp-waves sequences". Family history was negative for neurological diseaes. We noticed mild strabismus in his mother. OPHN1gene mutation was suspected (genetic test result unavailable).



Brain and cervical spine MRI

CONCLUSIONS

Mutations of Oligophrenin 1, one of the first genes identified in nonspecific X-linked mental retardation have been described in patient with moderate to severe cognitive impairment and predominant cerebellar hypoplasia, in the vermis. Oligophrenin 1 encodes for a 91-kd Rho GTP-ase activating protein. Of all the genes involved in X-linked Mental
Retardation (XLMR), six encode regulators or effectors of Rho GTP-ase proteins, suggesting an important role of the Rho signaling pathway in cognitive functions. Disfunction of Oligophrenin 1 protein might result in the constitutive activation of the Rho proteins patients affecting signal transduction pathways involved in cellular processes such as cell migration, neuronal morphogenesis, and synapse maturation.

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