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ARTICLE

Idiopathic very late-onset cerebellar ataxia: a Brazilian case series

Ataxia cerebellar idiopática com início muito tardio: uma série de casos brasileiros

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ABSTRACT

The authors present a Brazilian case series of eight patients with idiopathic very-late onset (mean 75.5 years old) cerebellar ataxia, featuring predominantly gait ataxia, associated with cerebellar atrophy. **Method:** 26 adult patients with a diagnosis of idiopathic late onset cerebellar ataxia were analyzed in a Brazilian ataxia outpatient clinic and followed regularly over 20 years. Among them, 8 elderly patients were diagnosed as probable very late onset cerebellar ataxia. These patients were evaluated with neurological, ophthalmologic and Mini-Mental Status examinations, brain MRI, and EMG. **Results:** 62.5% of patients were males, mean age was 81.9 years-old, and mean age of onset was 75.5 years. Gait cerebellar ataxia was observed in all patients, as well as, cerebellar atrophy on brain MRI. Mild cognitive impairment and visual loss, due to macular degeneration, were observed in 50% of cases. Chorea was concomitantly found in 3 patients. **Conclusion:** We believe that this condition is similar the one described by Marie-Foix-Alajouanine presenting with mild dysarthria, associated with gait ataxia, and some patients had cognitive dysfunction and chorea.

Keywords: late-onset cerebellar ataxia, cerebellar atrophy, idiopathic late-onset cerebellar ataxia, cerebellar atrophy of Marie-Foix-Alajouanine.

RESUMO

Os autores apresentam uma série de casos incluindo oito pacientes com ataxia cerebellar de início muito tardio (média de 75,5 anos de idade) apresentando ataxia de marcha, associada à atrofia cerebelar. **Método:** 26 pacientes adultos com diagnóstico de ataxia cerebelar de início tardio idiopática foram analisados ambulatorialmente e acompanhados regularmente ao longo de 20 anos. Destes, oito pacientes idosos foram diagnosticados como provável ataxia cerebelar início muito tardio. Os pacientes foram submetidos a um exame neurológico completo, avaliação cognitive e oftalmológica assim como ressonância magnética do cérebro e eletroneuromiografia tambem foram realizados. **Resultados:** 62,5% dos pacientes eram do sexo masculino, com idade média de 81,9 anos, com média de idade de início aos 75,5 anos. Ataxia cerebelar predominante de marcha foi observada em todos os pacientes, bem como, a atrofia cerebelar na ressonância magnética cerebral. Comprometimento cognitivo leve e perda visual, devido à degeneração macular, foram observados em 50% dos casos. Coréia foi encontrada em 3 pacientes. **Conclusão:** Acreditamos que esta condição é semelhante à descrita por Marie-Foix-Alajouanine apresentando disartria leve, associada a ataxia de marcha, disfunção cognitiva e coréia.

Palavras-chave: ataxia cerebelar de início tardio, atrofia cerebelar, ataxia cerebelar de início tardio idiopática, atrofia cerebelar de Marie-Foix-Alajouanine.

Idiopathic sporadic cerebellar ataxia comprehends a group of neurodegenerative, non-hereditary disorders, including multiple system atrophy cerebellar type (MSA-C), and idiopathic late onset cerebellar ataxia (ILOCA)[1,2]. ILOCA represents an obscure group of sporadic cases of late onset cerebellar ataxia, without adequate clinical, pathological, and genetic definition, described by Harding in 1981[3,4]. Late-onset cerebellar atrophy of Marie-Foix-Alajouanine is a sub-group of ILOCA patients with very late onset (IVLOCA)[5]. The objective of this study is to analyze the follow-up of 8 Brazilian patients with IVLOCA.

METHOD

Clinical and paraclinical findings of 26 adult patients with a diagnosis of ILOCA were analyzed in a Brazilian ataxia outpatient clinic and followed regularly over 20 years. Among them, 8 elderly patients were diagnosed as probable IVLOCA. These patients were evaluated with neurological, ophthalmologic and Mini-Mental Status examinations, brain MRI, and EMG. Genetic testing for Friedreich's ataxia, Spinocerebellar ataxias (SCAs) types 3, 6, 17 (in three cases), Huntington's disease in three cases

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with chorea, and Fragile X-associated tremor ataxia syndrome (FXTAS - in three patients). Diagnosis of probable REM sleep behavior disorder (RBD) was based on clinically validated criteria.

RESULTS

In this case series of IVLOCA, 62.5% of patients were males, mean age was 81.9 years-old, and mean age of onset was 75.5 years. Gait cerebellar ataxia was observed in all patients, as well as, cerebellar atrophy on brain MRI. Brain MRI also demonstrated mild signs of microangiopathy in three patients. There was no incoordination in the upper limbs, and mild dysarthria was found in 50 % of patients. Mild choreiform movements were detected in three patients. There were no pyramidal signs and no dysautonomia. There was no family history of ataxia. Genetic tests for Friedreich's ataxia, SCAs 3, 6, and 17, and Huntington's disease and FXTAS, were negative. In two patients, mild sensory peripheral neuropathy was diagnosed on EMG. None had RBD. Visual loss, with macular degeneration, and amnestic mild cognitive impairment (MCI) were detected in four (50%) cases each (Table).

DISCUSSION

IVLOCA represents a controversial entity, representing a subgroup of ILOCA cases. Currently, alternative terms have been used to describe to this group of patients, such as sporadic adult onset ataxia of unknown etiology (SAOA), or idiopathic late-onset pure cerebellar ataxia (ILOPCA), among others[1,2,6,7,8]. MSA-C represents the main differential diagnosis of ILOCA[8,9]. This group of non-hereditary degenerative ataxias needs to be differentiated from hereditary ataxias (with late-onset and no familial history), and acquired ataxias, which are due to exogenous or endogenous non-genetic causes.[1] In this Brazilian case series of eight patients with IVLOCA, besides gait cerebellar ataxia, with cerebellar atrophy on brain MRI, and very late-onset (mean age of onset 75.5 years), half of all cases also presented with visual loss due to macular degeneration, and amnestic MCI. Additionally chorea was found in three patients. The mean time of follow-up was 5 years, with slow progression, and mild phenotype (predominantly gait ataxia). There no clues to alternative diagnoses, including MSA. We believe that this condition is similar the one described by Marie-Foix-Alajouanine, in 1922, named "Atrophie cérébelleuse tardive a predominance corticale", cerebellar cortical atrophy (CCA), or pure cerebello-olivary degeneration[5]. In this condition with late-onset, there was mild dysarthria, associated with gait ataxia, and some patients had cognitive dysfunction and chorea[5]. Fox et al published in 2003 a case report of this entity, in a patient with a sporadic, late-onset progressive cerebellar ataxia plus cognitive decline and chorea, with CCA on neuropathological examination.[10] The main limitation of our study is its essentially clinical background, with no neuropathological confirmation with a limited number of genetic diseases excluded.

Table. Idiopathic very late-onset cerebellar ataxia – demographic data.

Case	Gender/Age/Age of onset	Gait ataxia	MCI	Chorea	Ophthalmology Examination	Brain MRI	RBD	EMG	SARA
1	F/91/83	+	-	-	-	Cerebellar atrophy	-	SPN	8
2	F/80/75	+	+	-	-	Cerebellar atrophy	-	SPN	5
3	F/88/82	+	+	+	+	Cerebellar atrophy	-	-	10
4	M/85/80	+	+	+	-	Cerebellar atrophy + brain microang.	-	-	4
5	M/80/77	+	+	+	+	Cerebellar atrophy + brain microang.	_	_	8
6	M/82/75	+	-	-	+	Cerebellar atrophy	-	-	9
7	M/75/71	+	-	-	+	Cerebellar atrophy	-	-	5
8	M/73/70	+	-	-	-	Cerebellar atrophy + brain microang.	-	-	11

F: Female; M: Male; Age/Age of onset: Years; +: Present; -: Absent; MCI: Mild Cognitive Impairment; Ophthalmology examination: Macular degeneration; Brain MRI: Brain Magnetic Resonance Imaging; brain microang.: Brain Microangiopathy; RBD: REM Sleep Behavior Disorder; EMG: Electromyography; SPN: Sensory Peripheral Neuropathy; SARA: Scale for the Assessment and Rating of Ataxia.

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