Clinical characteristics and imaging features of Late Onset Multiple Sclerosis (LOMS)

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BACKGROUND

Multiple sclerosis (MS) is an inflammatory, demyelinating disorder of the CNS mostly affecting young adults, between 18 and 45 years of age. The onset of MS in patients older than 50 years of age, the so called LOMS, is no longer unheard of, occurring in 2.7% to 12% of patients, but there is limited literature describing this entity.

OBJECTIVES

To describe the clinical characteristics and imaging feature of LOMS.

METHODS

We retrospectively reviewed our MS database and selected the patients who were diagnosed as developing multiple sclerosis at age 50 or older. Clinical presentation, MRI features, treatment and clinical evolution were evaluated.

RESULTS

We had 50 patients who were diagnosed as developing definitive MS after age 50, representing 7% of the MS patients seen in our clinic. We identified two distinct groups based on the clinical picture: G1, characterized by a relapsing remitting course and G2, by a progressive illness (Fig. 1). Forty one patients were included in G1, 30 women and 11 men, mean age of 55. G2 had 9 patients, 7 women and 2 men, mean age of 53.6 (Fig. 2). Gait difficulties were common in both groups and present in 80% of patient with G1 and in all patients with G2.

Figure 1: Prevalence of LOMS

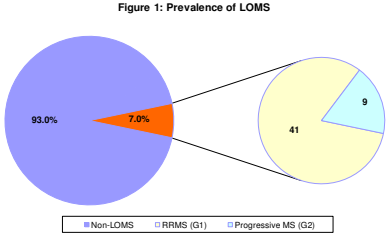

Figure 2: Breakdown of Gender in LOMS patients

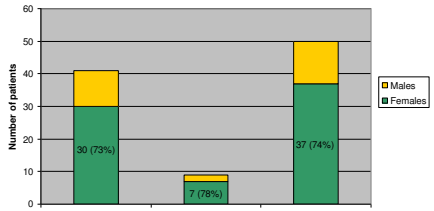

Table 1: Clinical and MRI Characteristics of LOMS patients, according to Initial Presentation

		RRMS, G1 (n=41)	Progressive MS, G2 (n=9)	OR (95% CI)	p-value (α=0.05)
Clinical					
	Gait deficits (%)	80	100	--	0.3216
	Motor deficits (%)	46	100	--	0.0030
	Initial EDSS (95% CI)	2.21 (1.80, 2.61)	5.28 (4.51, 6.05)	--	<0.0001
	Recent EDSS (95% CI)	2.93 (2.39, 3.47)	5.83 (5.29, 6.38)	--	<0.0001
	Cognitive Impairment (%)	7*	33	6.33 (1.03, 38.96)	0.0632
	Coordination difficulties (%)	7*	22	3.61 (0.51, 25.76)	0.2161
	Sensory deficits (%)	73	56*	2.18 (0.49, 9.63)	0.4234
MRI					
	Supra lesions (%)	98	100	--	--
	Infratentorial (%)	71	56*	1.93 (0.44, 8.46)	--
	Cervical spine lesions (%)	73*	89	2.93 (0.33, 26.23)	0.4251
	Thoracic spine lesions (%)	49*	67	2.10 (0.46, 9.64)	0.4657
	Gd contrast (%)	37*	44	1.39 (0.48, 4.12)	0.7152
	Atrophy (%)	32*	33	1.08 (0.32, 3.58)	0.7152

*Ref: Reference group for odds ratio comparison

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RESULTS (cont'd)

Motor deficits and a higher EDSS on initial exam were significantly more frequent in G2 (p=0.003, p<0.0001). Even though not statistically significant, G2 patients had higher odds of cognitive impairment (OR: 6.33; 95% CI: 1.03, 38.96) and more difficulties with coordination (OR: 3.61; 95% CI: 0.51, 25.76) than G1 (Table 1), while G1 patients had 2.2 times the odds of having sensory abnormalities (95% CI: 0.49, 9.63). No statistically significant difference was seen on MRI measures between the 2 groups, including the presence of supra and infratentorial lesions, spinal cord involvement, contrast enhancement and cerebral atrophy. However the odds of infratentorial (OR: 1.93; 95% CI: 0.44; 8.46) and spinal cord involvement (cervical spine: OR: 2.93; 95% CI: 0.33, 26.23; thoracic spine: OR: 2.10; 95% CI: 0.46, 9.64) were higher in G1 and G2, respectively. Ninety percent of patients in G1 were treated with a disease modifying agent as compared to 78% in G2 (OR: 2.64, 95% CI: 0.40; 17.31). The average follow-up was 4.5 years for G1 and 3.6 years for G2 with a non-significant mean change in EDSS between the two groups (p=0.65).

CONCLUSIONS

In our MS center, 7% of patients presented with LOMS. Contrary to the current literature, 82% of our patients had a relapsing remitting course, and the remaining 18% had a progressive illness. Gait difficulties were common in both groups, with motor deficits and higher EDSS significantly more common in patients with progressive disease. The MRI findings and clinical evolution over the course of a mean of 4 years were not significantly different between both groups.