CLINICAL PROFILE OF PEDIATRIC ONSET VS ADULT-ONSET MULTIPLE SCLEROSIS

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Introduction

MS is an immune-mediated, chronic disease of the central nervous system that affects mainly the adults. However, it is increasingly recognized that MS may start in the childhood resulting in a relentlessly progressive disability and cognitive impairment. When the age of MS patients at disease onset is younger than 18 years, Pediatric-onset MS (POMS) is defined. Registries across the globe are reporting inconstant data about their POMS patients. Therefore, there is a need for more research into the clinical characteristics of POMS in our population.

Aim of the work

The aims of the study are:

1. To compare the clinical characteristics of patients with (POMS) to (AOMS) in a sample of Egyptian patients at Alexandria university.
2. To identify predictors for disability progression in POMS.

Subjects and Methods

This study was a cross-sectional study that included MS patients who visited the MS clinic of the neuropsychiatry department, Alexandria University from January 2019 to January 2021. We entered their epidemiological, clinical, radiological data, and CSF results from their updated records as well as follow up interviews.

Results

POMS patients were about 9% of all the registered MS cases in the study duration.

Table : Comparison between POMS and AOMS groups according to clinical variables and treatment plans.

	POMS	AOMS	P
Duration of illness (Mean ± SD)	12.15 ± 6.98	6.72 ± 5.52	<0.001*
Interval between the first two attacks (months)	40.0 ± 47.3	22.71 ± 34.3	0.066
Recovery of 1st attack			
Complete	88.5%	71.7%	0.068
Partial	11.5%	28.3%	
The relapse rate in the 1st yearMean ± SD.	1.27 ± 0.67	1.49 ± 0.83	0.123
No. of relapses in the 1st 5 yearsMean ± SD.	3.75 ± 3.58	4.41 ± 3.63	0.091
ARR in the first 5 years Mean ± SD.	0.75 ± 0.72	0.88 ± 0.73	0.091
Time to 1st relapseMean ± SD	40.0 ± 47.35	22.71 ± 34.33	0.066
ARR(Mean ± SD)	0.72 ± 0.57	1.04 ± 0.78	0.008*
ARR in cases with 1st relapse interval less than 60 months	0.95 ± 0.57	1.08 ± 0.79	0.512
Total No. of relapses. (Mean ± SD)	5.85 ± 4.73	5.51 ± 5.28	0.311
No. of relapses pre-diagnosis. (Mean ± SD)	2.31 ± 1.44	2.98 ± 2.96	0.174
Baseline EDSS at the start of DMT. (Mean ± SD)	1.56 ± 1.57	2.45 ± 1.79	0.012*
EDSS in patients with disease duration. (0 – 5 years)	2.75 ± 1.77	2.39 ± 1.66	0.693
EDSS in patients with disease duration. (>5– 10 years)	2.50 ± 2.28	3.13 ± 1.98	0.314
EDSS in patients with disease duration. (>10– 20 years)	2.44 ± 1.76	3.74 ± 1.88	0.086
EDSS in patients with disease duration. (>20 years)	2.70 ± 2.14	4.29 ± 1.63	0.149
No treatment	0.0	4.3	FEp=0.600
1st line	53.8	45.5	0.421
2nd line	11.5	31.0	0.040*
1st then 2nd (Escalated)	34.6	19.3	0.072

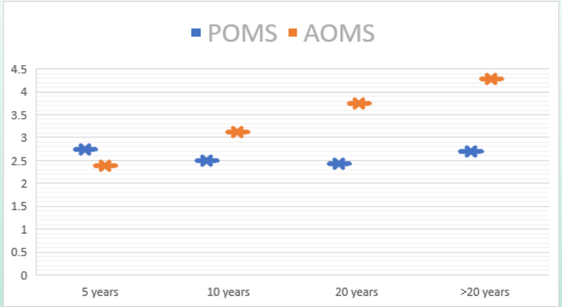

Figure: shows the mean EDSS scores after each duration of illness in the two groups.

Conclusion

We can summarise our conclusion from the current study in the following points:

- Early disease onset does not necessitate a higher relapse rate when including the full spectrum of POMS variants into consideration and following the patients for a longer interval.
- Median times to reach advanced EDSS scores and secondary progression were longer in POMS than in AOMS.
- Most of our POMS group were started on first-line DMT compared to of AOMS patients. Nonetheless, POMS patients had on average more relapses on the first line and were escalated to second-line DMTs compared to adults.
- POMS patients who had infratentorial patches in the initial MRI significantly had a higher EDSS score than patients who did not.
- IgG index had a significant and positive correlation to the current EDSS score and the rate of EDSS progression in POMS.

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