LETTER TO EDITOR

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Distribution of Multiple Sclerosis Plaques in Magnetic Resonance Imaging of Patients in Shiraz, Southwest Iran: Is There any Change?

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Dear Editor

Multiple sclerosis (MS) is a demyelinating disease that affects almost 2.5 million people around the world [1] and with an incidence rate that continues to increase.[2]According to previous studies, the plaques, which are visible in magnetic resonance imaging (MRI) ,[3] were common at the junction of cortex and white matter around lateral ventricles, the inferior and posterior horns, and the internal nuclei with no discrepancy between the distributions of plaques of left and right hemispheres .[4] However, it is assumed that in different populations with different social and individual characteristics, the distribution of MS might differ which leads to various reasons like genetic, environment and geographical location.[5] In a cross sectional study we investigated the distribution of MS plaques in central nervous system of 84 patients suffering from MS, 60 females and 24 males, referred referred to MRI in centers under supervision of Shiraz University of medical sciences from June 2011 to May 2012. This study may help to characterize the MS plaques according to their areas of interest in the CNS (Figure-1) and also according to the signs and symptoms caused by the demyelination process. The frequency percentage of MS plaques in different parts of CNS was evaluated. The data were showed in table 1.

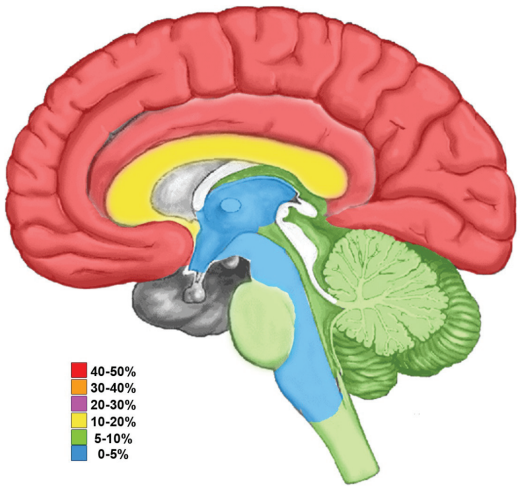

Figure 1. Distribution of MS plaques in different regions of the brain according to table1.

Our data showed 15 males suffering from the plaques that are mostly located in corpus callosum and 47 females suffering from cerebrum MS plaques. The results showed that 5 females and just 1 male had MS plaques in the thalamus.

There is a little contrast between the distribution of MS plaques between males and

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Table 1. Distribution of MS plaques in MRI of 84 patients referred to hospitals under supervision of Shiraz university of medical sciences, Shiraz, South-west Iran.

location	Female plaques %	Male plaques %	Total plaques %	Number of patients
Cerebrum	52.25	22.58	46.48	57
Cerebellum	5.84	3.2	5.31	26
Corpus callosum	12.73	18.06	13.43	59
Ventricles	7.43	12.90	8.23	37
Thalamus	1.59	1.94	1.63	6
Pons	6.1	9.03	6.5	31
Medulla	3.18	5.81	3.58	19
Mid brain	3.58	9.68	4.55	13
Spinal cord	7.29	16.77	8.78	40

females, but cerebrum, corpus callosum, and ventricles are at the same level in both females and males and there are the most probable location for MS plaques formation.
The thalamus was shown to be less prone to MS plaques in females and males.

Our study showed that the distribution of MS plaques in CNS is higher in cerebrum comparing with the other parts of the CNS. On the other hand, similar to the present study, results of other studies revealed that juxtacortical, preventricular, centrum semiovale and corpus callosum are the most probable areas which are prone to MS plaques.[3,6] Conclusively, according to demographic differences, contrasts in nutrition and medical supplies, the distribution of MS plaques seems to have no change regarding previous investigations.

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