Early Predictors of Conversion in Patients with Clinically Isolated Syndrome: A preliminary Egyptian Study

Abstract

Background: Clinically isolated syndrome (CIS) is the first neurologic episode of multiple sclerosis (MS). Clinical presentation, neurophysiological studies, and magnetic resonance imaging (MRI) are used to predict risk of conversion to MS. There is little information regarding the risk factors of CIS conversion to MS so far in the Egyptian patients. This study aimed to evaluate the predictors of early conversion of the Egyptian patients with CIS to MS.

Methods: A longitudinal prospective study was conducted on 43 Egyptian patients diagnosed as CIS according to the McDonald criteria (2010). The CIS patients underwent clinical assessment of disability using Expanded Disability Status Scale(EDSS), brain imaging by magnetic resonance imaging (MRI), and visual evoked potential (VEP) at baseline and after 1-year follow-up.

Results: Eight patients (19.6%) with CIS converted to clinically definite MS after 1 year. A logistic regression analysis revealed that the CIS patients with initial clinical presentation with optic neuritis and higher MRI brain lesion number were associated with early conversion to MS ($p = 0.003$, $p = 0.002$, respectively). The total MRI brain T2 lesion number
that predicts early conversion to MS was four lesions with sensitivity (100%) and specificity (85.7%).

Conclusions: The patients with CIS that early presented with optic neuritis and higher MRI brain lesion number are at higher risk for conversion to clinically definite MS.

Keywords: Clinically isolated syndrome, Predictors of conversion, Multiple sclerosis

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