

## Factors affecting the clinical conversion of clinically isolated syndrome to multiple sclerosis

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**Introduction:** clinically isolated syndrome (CIS) is the first demyelinating episode of multiple sclerosis (MS). This syndrome has various natural courses and prognosis among patients and every patient with CIS attack would not necessarily convert to clinically definite MS (CDMS). In present study, we assessed the factors that can affect clinical conversion of CIS to CDMS.

**Materials and method:** in this prospective cohort study, 68 patients with CIS attack included whom referred to neurology clinic of Rasool-Akram hospital of Tehran, Iran at a 4 years period. Complete medical history and physical examination, laboratory evaluations and imaging including brain and spinal MRI were performed. Regular follow up was done at least every 3 months intervals. Finally the data were collected and clinical conversion rate of CIS to CDMS and its related factors were analyzed by edition 18.0 of SPSS statistical software.

**Results:** 18 patients were excluded. The mean age of remaining 50 patients was  $29.0 \pm 8.4$  years and 80% of them were female. The most common type of CIS was optic neuritis (46%) and the mean follow up period was  $29.4 \pm 11.4$  months. The clinical conversion rate of CIS to CDMS was 44%. There were no statistical significance between age ( $P=0.07$ ), sex ( $P=0.53$ ), involvement of brain MRI ( $P=0.09$ ), involvement of cervical MRI ( $P=0.19$ ) and initial EDSS score ( $P=0.13$ ) and clinical conversion to CDMS. The patients whom had multi focal CIS or brain stem syndromes attack converted to CDMS more than the others.

**Conclusion:** The clinical conversion rate of CIS to CDMS was 44% which was more than the similar rate in other countries. This intensifies the importance of MS in our country .

**Keywords:** multiple sclerosis, clinically isolated syndrome, clinical conversion rate.