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## Spinal Cord Lesions Predict Disability Progression in Relapsing Multiple Sclerosis

S. Mrabet<sup>1</sup>, A. Souissi<sup>1</sup>, F. Larnaout<sup>1</sup>, I. Kacem<sup>1</sup>, L. Hmissi<sup>1</sup>, A. Gargouri<sup>1</sup>, M. B. Djebara<sup>1</sup>, R. Gouider<sup>1,2</sup>

<sup>1</sup>Department of Neurology, UR12SP21, Razi Hospital, Tunis, Tunisia

<sup>2</sup>Faculty of Medicine of Tunis, Tunis University, manar, Tunis, Tunisia

**Background:** Predicting progressive course during relapsing multiple sclerosis (MS) remains a challenge. Studies suggested the involvement of the spinal cord in the progression of disability. We aimed to study the link between early spinal cord lesions and progression of disability during relapsing MS (RMS).

**Methods:** A retrospective study was conducted in the department of neurology in razi hospital to determine the involvement of spinal cord lesions in progression of disability during RMS. We included patients diagnosed with RMS according to mac donald criteria and with at least three years follow-up period. The first clinical event was documented with a baseline spinal MRI performed within the first three years. Early spinal cord involvement was defined with the presence of lesions on the baseline MRI. Number of relapses during the first year, recovery from the first clinical event, disability (measured via the expanded disability status scale (EDSS)) and progression of MS were studied. Data were analysed via SPSS-23. All p values < 0.05 were considered to be statistically significant.

**Results:** One hundred and ten patients were included. Sex ratio was 1/3. The average age was  $38 \pm 10$  years. Early spinal cord lesions were found in 75 patients (68 %) involving cervical spine in 50 % and dorsal spine in 18 %. Early asymptomatic spinal cord lesions (23.3%) were associated with a full recovery of the first relapse ( $p=0.04$ ). Active spinal cord lesions, including cervical ones, were associated with a higher number of relapses during the first year (respectively  $p = 0.02$  and  $0.01$ ). Secondary progressive MS (13.3%) and early symptomatic spinal cord lesions were related ( $p = 0.008$ ).

**Conclusions:** Early active spinal cord lesions and cervical abnormalities were associated with disability progression and greater clinical activity during the initial phase of relapsing MS.