Incidence of Silent Spinal Cord Lesions in Relapsing Remitting Multiple Sclerosis

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OBJECTIVES

We evaluated the incidence of asymptomatic spinal cord lesions in our patients with relapsing remitting multiple sclerosis (RRMS).

BACKGROUND

Even though both brain and spinal cord are frequently involved in multiple sclerosis, most patients are routinely monitored only with a MRI of the brain. The theory behind this is the belief that, contrary to the brain, silent lesions are rare in the spinal cord due to its higher ratio of clinically eloquent to total tissue volume. However, recent studies in patients with radiologically and clinically isolated syndromes have shown silent spinal cord lesions in 35% and 27% of the patients studied, respectively.

METHODS

We retrospectively selected 148 patients with RRMS from our MS database that had a 1.5 Tesla MRIs of the brain, cervical and thoracic spine done and identified the ones who had a spinal cord abnormality. A chart review was performed and patients with asymptomatic spinal cord lesions were studied.

RESULTS

One hundred and eighteen patients had an abnormal MRI of their cervical and thoracic spine. There were 19 patients (16.1%) with asymptomatic spinal cord lesions, 14 women and 5 men, with a mean age of 48.2. Nine patients (7.6%) had lesions in the cervical (Table 1 and Table 2, Figure 1 and Figure 2) and 10 (8.5%) in the thoracic spine (Table 3 and Table 4, Figure 3 and Figure 4). Gadolinium-enhanced lesions were observed in 9 (47.4%) of these 19 patients. In 14/19 patients (73.7%), further diagnostic and therapeutic decisions were implemented based on the new imaging finding. In 3/19 patients (15.8%), the development of a new spinal cord lesion was attributed to lack of compliance to treatment, and further adherence counseling was instituted. In the remaining two patients, no changes in management were performed (Figure 5).

CONCLUSIONS

Silent spinal cord MS lesions, including enhancing ones, can occur in approximately 1/6 of patients with RRMS, affecting both cervical and thoracic spine, prompting changes in management in most of them. We propose that follow-up spinal cord MRIs should also be included during routine MRI monitoring of RRMS patients.