Background: Magnetic resonance imaging (MRI) has advanced our ability to diagnose multiple sclerosis (MS) and provide insights into the pathology of the disease. MRI is a standard part of the MS diagnostic process. While there is consensus on the technical aspects of MRI in MS, there is no consensus on its use for disease monitoring. There is a wide range of practices regarding the use of MRI monitoring in MS. Some clinicians use relapses and progression of disability as their gauge of disease stability, while others add periodic MRI monitoring. Objectives: To determine the frequency of MRI changes (new T2 and/or new enhancing lesions on routine follow-up MRI scans), and to justify/argue for the use of screening MRI in stable relapsing-remitting MS (RRMS) annually. Methods: The study examined 360 clinically stable MS subjects who had had two brain MRI studies. Clinical information including demographics, duration of MS, and type/duration of therapy was gathered. Patients included had confirmed diagnosis of MS and two MRI studies available for review. Patients were excluded if they were enrolled in a clinical trial, their films were unavailable, or they had had just one MRI study. Results: A total of 445 charts were reviewed. Of those, 145 were excluded due to the following factors: unstable MS, only one MRI available, not on disease-modifying therapy (DMT), problems other than MS found on MRI. A total of 284 charts were analyzed, of which 67 (23.59%) had at least one new T2 brain lesion. A full assessment of newly acquired T2 lesions, both new enhancing lesions and total volume, is pending. The patient population consisted of 207 patients with RRMS and 66 patients with progressive MS. The BOD was measured as light, moderate, or heavy. There was minimal change in BOD from the first to the second MRI study. The change from light to moderate was 80 of 284 light and 183 of 284 moderate at the first study to 73 of 284 light and 190 of 284 moderate at the second study. A follow-up assessment will address changes in patient therapy during the evaluation period and a possible link to clinical MRI findings. Conclusions: Periodic MRI monitoring in clinically stable MS patients may be of value for several reasons. This records review demonstrates that one-fourth of these “stable” patients have ongoing disease activity on MRI. The presence of clinically silent lesions may yield information about adherence to therapy for some patients or lead to a switch in therapy for others. Several studies have suggested that an individual’s disease may be better controlled by switching between first-line therapies.

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