

Abstract:

We cannot ignore the power of the MRI today which detects clinically relevant changes in the absence of clinical signs or symptoms. Subclinical (MRI only) disease activity is relevant enough to be included in all current renditions of the new diagnostic criteria for MS, fulfilling all the requirements now for 'dissemination in space' (DIS) and 'time' (DIT) in the absence of any clinical signs or symptoms. In fact, a recent MAGNIMS publication has raised that diagnostic criteria should be even further changed calling for a more simplified, less ambiguous definition of DIS; meeting DIT criteria whether or not the lesions are symptomatic; and indicating the lack of value of non-enhancing hypointense lesions on T1-weighted images (i.e. T1 black holes) in predicting conversion to clinically definite MS when added to the current DIS criteria.¹ They go on to make further recommendations regarding the use of MRI in both CIS and RIS.

When it comes to prognosis or monitoring response to therapy, the same MAGNIMS consortium have also addressed this and indicated clearly that MRI also makes an important contribution to the monitoring of treatment, and can be used to determine baseline tissue damage and detect subsequent repair. This use of MRI can help predict treatment response and assess the efficacy and safety of new therapies.² They build upon the seminal study by Prosperini et al³ which was used to establish the cut-off of new lesion development over a year of treatment which by itself (in the absence of any clinical signs or symptoms of relapse or progression) should prompt consideration for switching therapies in the Canadian Treatment Optimization Recommendations⁴.

The recommendations for monitoring also require strict adherence to an informative standardized MRI set of acquisition sequences, which offer accuracy in terms of follow-up comparisons to allow for making recommendations based on new lesion development while on a DMT, but furthermore are vital to detecting relevant safety concerns such as the development of an atypical lesion that might suggest PML².

It is therefore quite clear that if we are to embark on expensive and sometimes risky medications in order to get a foothold on MS disease, that we intercede and determine as quickly as possible that the medication is not futile and switch to one that will make a difference. MRI monitoring will now allow us to do this with accuracy and in a shorter time than waiting for clinical signs or symptoms of the disease to develop.

References:

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