

MS or not MS (imaging based)

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This presentation will focus on the role of MRI in the diagnosis of Multiple Sclerosis.

We will discuss the following subject's typical findings in MS Role of MR in the McDonald criteria of MS How to differentiate MS lesions from other white matter diseases. One of the most common questions in daily radiology practice when we see an image like past slide is:

'Do we have to think of Multiple Sclerosis?

Or are these white matter lesions the result of small vessel disease, as in a hypertensive patient?

Or should we think of more uncommon diseases?

- although The list of possible diagnoses of WMLs is long Most incidentally found WMLs will have a vascular origin

MS has a typical distribution of WMLs.

This can be very helpful in differentiating them from vascular lesions. Typical for MS is involvement of corpus callosum, U-fibers, temporal lobes, brainstem, cerebellum and spinal cord.

This pattern of involvement is uncommon in other diseases.

In small vessel disease there may be involvement of the brainstem, but it is usually symmetrical and central, while in MS it is peripheral. The location of these white matter lesions is in the deep white matter and it is important to notice that these lesions are not juxta ventricular, and not located in the corpus callosum.

Unlike in MS, they do not touch the ventricles or the cortex. Only if the clinical findings strongly direct us towards inflammatory, infectious, toxic or other diseases, should we consider these diagnoses. Finally we discuss other differential diagnosis MS based imaging.

Keywords : Small vessel, M.S, WMLs, MRI.