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Low Signals on T2* and SWI Sequences in Patients with MS with Progressive Multifocal Leukoencephalopathy

P. Labauge, C. Carra-Dalliere, X. Ayrignac and N. Menjot de Champfleur

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Low Signals on T2* and SWI Sequences in Patients with MS with Progressive Multifocal Leukoencephalopathy

We read with interest the study by Hodel et al[1] concerning the occurrence of cortex, U-fiber, and basal ganglia low signals found on T2* and SWI sequences in 12 patients with MS with progressive multifocal leukoencephalopathy (PML). These low signals were frequent in this series and may occur in presymptomatic patients with PML treated with natalizumab (75% of their 8 asymptomatic patients with PML). We previously published such low intensities in a patient with a PML diagnosis.[2] We further confirmed the importance of T2* and SWI sequences to detect low signals in a series of 4 patients with PML.[3] Pathologic analysis by Hodel et al[1] of a patient with low T2* signal intensities identified astrocytic gliosis associated with abundant microglial and macrophage infiltrates, containing myelin-filled vacuoles. The authors hypothesized that low signal on T2* could be related to accumulation of iron in the macrophages. Although T2* and SWI low signal intensities are not constant in PML, their occurrence may differentiate confluent MS lesions from PML. Consequently, an MR imaging survey of patients at risk for PML (notably patients with MS treated with natalizumab or those who are immunosuppressed) should include T2* and SWI sequences.

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REFERENCES

1. Hodel J, Outteryck O, Verclytte S, et al. **Brain magnetic susceptibility changes in patients with natalizumab-associated progressive multifocal leukoencephalopathy.** *AJNR Am J Neuroradiol* 2015 Aug 27. [Epub ahead of print] CrossRef Medline
2. Carra-Dalliere C, Menjot de Champfleur N, Ayrignac X, et al. **Quantitative susceptibility mapping suggests a paramagnetic effect in PML.** *Neurology* 2015;84:1501–02 CrossRef Medline
3. Carra-Dalliere C, Menjot de Champfleur N, Deverdun J, et al. **Use of quantitative susceptibility mapping (QSM) in progressive multifocal leukoencephalopathy.** *J Neuroradiol* 2015 Oct 13. [Epub ahead of print] CrossRef Medline

P. Labauge
C. Carra-Dalliere
X. Ayrignac
Department of Neurology
N. Menjot de Champfleur
Department Neuroradiology
Montpellier University Hospital
Centre Hospitalo-Universitair Gui de Chauliac
Montpellier, France