Isolated hyperintense signal change in t2-weighted mri of brain in young adult patients with reversible transient focal motor symptom-not what it first seems?

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Background: Interpretation of unifocal hyperintense white matter signal change in T2-weighted MRI of brain in symptomatic younger patients is variable and common explanations are ischaemic, inflammatory (demyelinating) and non-specific. However, a correct interpretation holds the key to correct diagnosis and management. Method: Retrospective case series of three young adult patients (F=2, M=1) presenting with transient acute reversible loss of hand dexterity with isolated T2-weighted hypertense MRI signal change in subcortical white matter on congruent hemisphere. Result: Despite assumption of non-specificity in one (male) and functional disorder in another (female) patient, significant cerebrovascular disease necessitating surgical intervention was identified in two cases. The third patient (female), who was treated elsewhere for transient ischaemic attack (TIA) with interventional cardiac procedure for secondary stroke prevention, developed relapsing-remitting multiple sclerosis. Conclusion: Clinico-radiological correlation is essential for correct interpretation of isolated white matter signal change in young adult patients presenting with first episode of transient focal neurological symptom. It remains the responsibility of the physician to pursue appropriate diagnostics for clarification rather than assume the radiologist`s diagnosis of scan abnormality.