Tacrolimus-associated PRES in a Patient with Lupus Nephritis: A Case Report

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Posterior reversible encephalopathy syndrome (PRES) is an acute neurological syndrome characterized clinically by seizures, altered mental status, and headahce, and radiologically by reversible subcortical vasogenic edema. We present the case of a patient diagnosed with PRES while receiving treatment for LN. A 25 year-old female patient with no known medical conditions presented with asthenia for several weeks. Initial laboratory findings showed a serum creatinine of 4.0 mg/dL and a spot urine protein-to-creatinine ratio of 2.67 g/g Cr. Serologies were positive for anti-dsDNA and anti-nuclear antibody (1:640), and renal biopsy showed WHO class IV LN. The patient was treated with glucocorticoid therapy (methylprednisolone 500 mg/day for three consecutive days, then oral prednisolone 0.6mg/kg/day) plus mycophenolate (MMF 0.5g bid and then gradually increased to 1.5g bid). One month after initiation of treatment, the patient developed agranulocytosis due to MMF, and the dose reduced to 0.5g bid. In addition, 2mg of tacrolimus was added. Three weeks after starting tacrolimus, the patient visited the emergency room with sudden onset of headache, altered mental function, and tonic-clonic seizure. High-signal intensity lesions were observed in bilateral occipitotemporal and left posterior temporal subcortical white matter on T2-weighted MR scans, suggesting PRES. Tacrolimus-induced PRES could not be excluded and tacrolimus was discontinued. Afterwards, the patient's symptoms gradually improved and she was discharged after 17 days. In drug-induced PRES, prompt cessation of the causative agent and management of seizure are the mainstay of therapy. In this case, tacrolimus is assumed to be the causative agent of PRES for the following reasons: first, PRES developed after tacrolimus was added; second, after discontinuation of tacrolimus, neurological symptoms and characteristic abnormal lesions on brain MRI disappeared. Since PRES is not always reversible, if PRES is diagnosed in LN patients, management such as treatment of active LN, immediate discontinuation of offending agents, and control of hypertension is required.

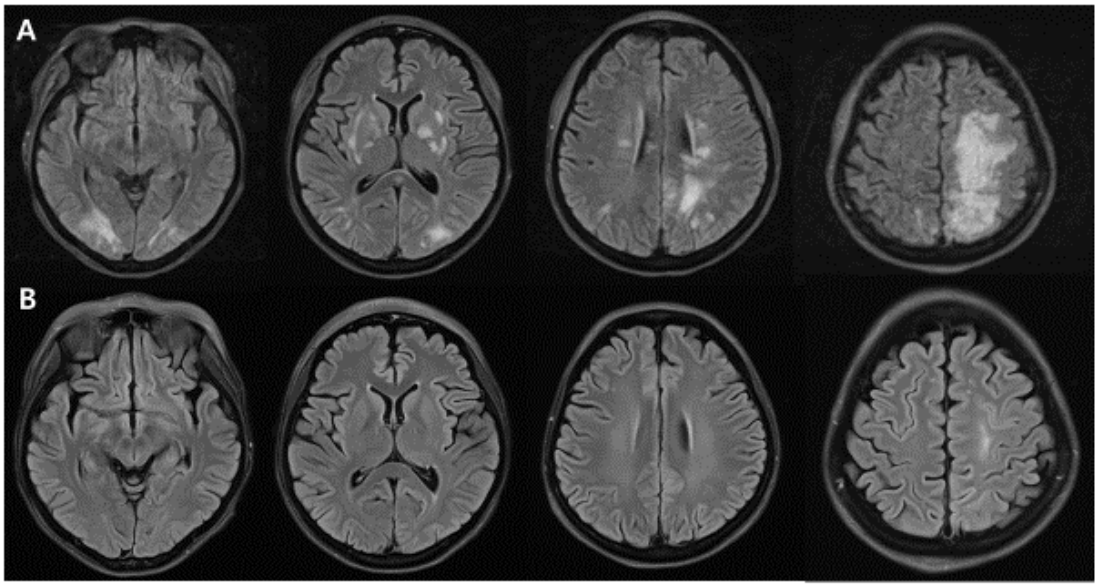

Figure 1. (A) Brain MRI (FLAIR) before and (B) after discontinuation of tacrolimus