Pandas Disease as a cause of epilepsy? A case report

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Background: PANDAS is an acronym for Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal infection, a rare disease that usually appears in children. It involves a subset of patients that rapidly develop obsessive compulsive disorder and/or tic disorders after an infection with group A beta-hemolytic streptococci (GABHS). The cause for this is an autoimmune reaction against a pathogen (GABHS) that shares a similar epitope with the basal ganglia, therefore affecting them and interfering (permanently) with their function. Despite the growing number of reported cases, a comprehensive review of the literature did not show any papers suggesting a link between PANDAS DISEASE and epilepsy. There is both clinical and electrophysiological evidence supporting the involvement of the basal ganglia in epileptic seizures. Basal ganglia affect activity in the frontal cortex through a series of neural projections.

Materials and methods: We present the case of a previously healthy 9 year old boy who 2 weeks after a pharyngitis caused by GABHS developed a tic disorder, and a month after that developed generalized tonic-clonic seizures with an epileptogenic focus on the right frontal leads as evidenced by a video EEG. An MRI as well as a SPECT scan showed no abnormalities, but a PET scan showed increased activity in his basal ganglia. Results: the patient was left with epilepsy minimally responsive to antiepileptic drugs. Conclusion: We therefore demonstrate a connection between GABHS infection and frontal lobe epilepsy, by affecting basal ganglia functions.