031 EPILEPSY IN TOURETTE SYNDROME

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Objective Tourette Syndrome (TS) is a neurodevelopmental disorder frequently associated with comorbidities such as OCD, ADHD and autistic spectrum disorders (ASD). Tics are more common in Learning Difficulty (LD) populations. The mechanism of these associations is felt to vary for instance appearing to be more genetically based for OCD than for ADHD. The comorbid conditions seen with TS are known to be associated with increased or high rates of epilepsy. In turn, epilepsy cohorts also have high rates of neurodevelopmental and behavioural disorders. There has been little literature on epilepsy in TS.

Method Clinical records of 347 patients with TS seen at a specialist clinic were reviewed. Associated conditions were diagnosed clinically but it was not possible to stratify LD by IQ. Epilepsy diagnoses were rated as definite or probable by a neurologist taking into account previous investigations including EEG where available, clinical descriptions and treatment. Cases where epilepsy had been inappropriately suspected or misdiagnosed were excluded.

Results The cohort was 23% female and 50% under the age of 17 with the following comorbidities: OCD (24%), ADHD (54%), LD (10%) and ASD (10%). Epilepsy was seen in 21 cases (6%) and was felt to be definite in half of these cases. Mean age of seizure onset was 7 years and was within a year of onset of tics in 33% of the epilepsy cases. In 4-6 cases the seizures were felt to be symptomatic, in 6 were focal and in 9 had remitted. Cases with epilepsy were not more severe on Yale Global Tic Severity Scores but had more comorbidity. There was an earlier age of onset of tics and significantly higher rates of ADHD, OCD and LD with a non-significant trend for an increased rate of ASD. Looking at the figures from the other direction, patients in the TS cohort with LD and OCD had significantly increased rates of epilepsy (18.2% v. 4.8% for LD) and there were non-significant trends for ADHD and ASD.

Conclusion Patients with Tourette syndrome have a higher than expected rate of epilepsy, and are also sometimes misdiagnosed with seizures. Rates are higher still in patients with various

comorbidities, especially LD, and uncommon in "pure" TS. Seizures could be a marker for a more severe neurodevelopment syndrome, or could reflect a shared substrate. Thalamocortical dopaminergic dysfunction has been linked to seizures and there could be contributions from epileptogenesis effects of neurodevelopmental genes or drug treatment for tics.