

Frequency and Relationship Between Tics, Cognitive Attention Impairment and Obsessive Compulsive Symptoms in Children versus Adults with Tourette Syndrome

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Background/Objective: Although likely that the triad of OCD, tic and ADD in Tourette Syndrome (TS) share regional neuroanatomic loci (basal ganglia – frontal cortex), their differential pharmacologic responsiveness suggest differing neurotransmitter mechanisms (serotonergic/dopaminergic). Non-Tourette tic disorders and hyperactivity (and perhaps the attentional problems) of ADHD tend to lessen in adulthood. However, the extent to which each of the Tourette syndrome triad components influences the others and their mutual evolution through the lifespan is unclear. This investigation attempts to ascertain the relationship between tics, attentional disorder and OCD in an outpatient population of TS patients and contrast the pattern of that relationship between adult and pediatric subjects.

Methods: Forty-seven patients (37 male, ages 4-52 years) meeting criteria for TS (Tourette Syndrome Classification Study Group, 1993) were identified from a serial database of patients assessed comprehensively and similarly between 1990 and 2000 in an outpatient referral, university affiliated neuropsychiatric facility. There were 19 adults, mean age 32 years and 28 children, mean age 9.9 years. Assessment measures contrasted included Yale Tic Rating Scale; Test of Variables of Attention (TOVA), Conners Continuous Performance Test (CPT), Letter Cancellation Task (LCT), and Digit Span (DS) for attention; Achenbach Child Behavior Checklist (CBCL), Yale-Brown Obsessive-Compulsive Rating Scale (Y-BOCS), and the Minnesota Multiphasic Personality Inventory (MMPI) for OCD. Scores were compared within individual patients and between adult and childhood groups.

Results: OCD criteria were met in 64% of the children and 68% of the adults ($p = N.S.$). Attention deficit criteria were met in 57% of the children and 21% of the adults ($p = 0.1205$). Tics were more prominent in children than adults ($p = 0.006$). In both adults and children there was no correlation between tics, OCD, and inattentiveness.

Conclusions: As in ADHD, cognitive attentional disorder and tics are much less frequent in TS adults than TS children. OCD is equally prevalent in both children and adults. Therefore, in TS adults, attentional difficulties are not secondary to OCD manifestation. This evolutionary pattern and its underlying mechanism await confirmatory longitudinal investigation.

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