

Tourette Syndrome and rage attacks in children and adolescents: A longitudinal study.

Ida Cintin¹, Judy Grejsen¹, Camilla Groth¹, Liselotte Skov¹ and Nanette Mol Debes^{1, 2}

¹ National Tourette Clinic, Department of pediatrics, Herlev University Hospital, Denmark

² Department of Clinical Medicine, University of Copenhagen, Denmark

Background:

Many patients with Tourette syndrome (TS) are experiencing rage attacks (RA) and patients report these to affect their quality of life even more than their tics. The physiology of RA has still not been found, but due to TS's relationship with attention deficit hyperactivity disorder (ADHD) and obsessive compulsive disorder (OCD) a genetic reason could be hypothesized. Another explanation could be that the strain of suffering from severe tics or comorbidities could also lead to an increased level of irritability resulting in RA later on in life. This study is aiming to examine whether tic severity or comorbid symptoms at baseline will result in more RA 6 years later in time, in order to further uncover the relationship between TS with OCD and ADHD.

Methods:

314 patients between the age of 5 and 19 years with TS were examined at baseline and 227 returned for follow-up 6 years later. A matched control group of 81 at baseline and 53 for follow-up also examined. The examinations consisted of The Yale Global Tic Severity Scale (YGTSS), ADHD rating scale (ADHD-RS), the Children's Yale-Brown obsessive compulsive scale (CY-BOCS) or Yale-Brown Obsessive Compulsive Scale for adults (Y-BOCS) and a structured questionnaire regarding the presence of RA. The same tests were repeated at follow up.

Results:

The patients with TS experienced significantly more RA than the control subjects at both baseline and follow up ($p < 0.001$). TS patients with RA at baseline had significantly more compulsions and higher scores of hyperactivity, impulsivity and concentration problems than the patients without RA. Furthermore, patients with RA at follow up had significantly higher scores of hyperactivity and impulsivity at baseline. There was no significant difference in tic severity between TS patients with or without RA at baseline and follow up.

Conclusions:

Our study showed that RA was significantly more present in patients with TS than in healthy controls. Furthermore, the severity of OCD and ADHD correlated with the presence of RA and hyperactivity and impulsivity early in life can predict the presence of RA later in childhood and adolescence. It is important to screen for the presence of RA in patients with TS and especially in patients who also have comorbid ADHD and/or OCD.