

Neuropsychiatric Disorders Associated With Streptococcal Infection: A Case-Control Study Among Privately Insured Children

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Abstract

Objective: To assess whether antecedent streptococcal infection(s) increase the risk of subsequent diagnosis of obsessive-compulsive disorder (OCD), Tourette syndrome (TS), other tic disorders, attention-deficit/hyperactivity disorder (ADHD), or major depressive disorder (MDD) in a national sample of privately insured children.

Method: Using health insurance claims data, we compared the prior year's occurrence of streptococcal infection in children ages 4 to 13 years with OCD, TS, or tic disorder newly diagnosed between January 1998 and December 2004 to that of a cohort of matched controls. Conditional logistic regression models were used to determine the association of prior streptococcal sore throat or scarlet fever with a diagnosis of OCD, TS, or tic disorder. We repeated the analyses for two other infectious diseases (otitis media and sinusitis) and one noninfectious condition (migraine). We also investigated the potential specificity of this association by performing similar analyses focused on newly diagnosed ADHD and newly diagnosed MDD.

Results: Subjects with newly diagnosed OCD, TS, or tic disorder were more likely than controls to have had a diagnosis of streptococcal infection in the previous year (odds ratio 1.54, 95% confidence interval 1.29-2.15). Prior streptococcal infection was also associated with incident diagnoses of ADHD (odds ratio 1.20, 95% confidence interval 1.06-1.35) and MDD (odds ratio 1.63, 95% confidence interval 1.12-2.30).

Conclusions: These findings provide epidemiologic evidence that some pediatric-onset neuropsychiatric disorders, including OCD, tic disorders, ADHD, and MDD, may be temporally related to prior streptococcal infections. Whether this is the result of a nonspecific stress response or secondary to an activation of the immune system remains to be determined.