

## The evaluation of a relationship between group A streptococcal infection with tic disorders in children

To the Editor

I have 4 comments on the interesting study by Arman et al<sup>1</sup> on the evaluation of a relationship between group A streptococcal infection with tic disorders in children.

First, although Arman et al's<sup>1</sup> study showed a correlation between group A beta hemolytic streptococcus (GABHS) infection and tic disorders in children, but not to the extent of causal relationship, the relationship between pediatric autoimmune neuropsychiatric disorders associated with streptococci (PANDAS) in childhood to antecedent GABHS remains elusive. Recently, it was found that there is no overall increased risk of prior possible streptococcal infection in patients with the diagnosis of obsessive-compulsive disorder (OCD), Tourette syndrome (TS), or tics, as more than 85% of clinical exacerbations in OCD/tic behavior in patients who met the criteria for PANDAS had no relationship to preceding GABHS infection. Additionally, no correlation was proved between clinical exacerbations and changes in a variety of markers of brain autoimmunity, the proposed pathogenesis of PANDAS.<sup>2</sup> Patients who fit the published criteria for PANDAS seem to represent a subgroup of those with chronic tic disorders, and OCD that might be vulnerable to GABHS infection as a precipitant of neuropsychiatric symptom exacerbations. The GABHS infection is not the only, or even the most common, antecedent event associated with exacerbations for these patients.<sup>3</sup>

Second, Arman et al<sup>1</sup> did well in installing certain exclusion criteria in their study. I wonder whether human immunodeficiency virus (HIV) infection was included among these exclusion criteria, as HIV infection is closely correlated with tic disorders.<sup>4</sup> Though no published studies are at present addressing the exact prevalence of pediatric HIV infection in Iran, I presume that it is a substantial problem. According to a recent study,<sup>5</sup> over the 20 years surveillance period (1986-2006), the rate of HIV/acquired immunodeficiency syndrome (AIDS) infections diagnosed annually among Iranian citizens has gradually increased and, over the period 1997-2004, it tripled from 1.38 to 4.6 cases/100,000 populations/year. Accidental inclusion of children with HIV infection in Arman et al's study<sup>1</sup> will ultimately result in biasing the conclusion, as that infection might preclude the precision of the results of the laboratory tests used to diagnose streptococcal infection.

Third, despite no overall increased risk of prior streptococcal infection in patients with the diagnosis of PANDAS,<sup>2</sup> and the absence of conclusive and evidence-based data regarding the usefulness of antibiotics and immunomodulatory treatments in children with PANDAS,<sup>6,7</sup> these treatments are often unjustifiably used by pediatricians as an empirical option in community settings. This wrong attitude needs amelioration.

Fourth, compared with specialty clinic diagnoses, patients diagnosed with tics or TS by physicians in the community were significantly more likely to be diagnosed with PANDAS without meeting the proposed criteria, most lacked supporting laboratory evidence of GABHS infection, and they were more likely to be treated with unjustified short or long-term antibiotics and/or immunomodulatory therapy.<sup>2</sup> Therefore, further studies are required to revise the boundaries of PANDAS, develop psychometrically reliable and valid diagnostic strategies, and institute appropriate management.

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### Reply from the Author

No reply was received from the Author.

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