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Case Report

Paedatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcal Infection in an Indian Adolescent - A Case Report

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ABSTRACT:
Pediatric Autoimmune Neuropsychiatric Disorders associated with Streptococcal infection (PANDAS) is a unique constellation of signs and symptoms that exist in a subset of children with rapid onset or exacerbation of obsessive-compulsive disorder (OCD) and/or tic disorders due to an initial autoimmune reaction to a Group A Beta Hemolytic Streptococcas (GABHS) infection which produce antibodies that interfere with the basal ganglia function. In PANDAS the usual onset is known to be before 12 years of age, however, it may also present (although rarely) in adolescence. With an aim to substantiate the existing database as well as create awareness about the same we report a case of PANDAS with adolescent onset.

Key words: PANDAS, ASO titres, GABHS, Y-BOCS, ANA

INTRODUCTION

In the early 1990's, investigators at the National Institute of Mental Health, observed that some children had a sudden onset of obsessive symptoms that occurred after streptococcal infections. This disorder termed as PANDAS [1]. There is no evidence of any specific time limit from the occurrence of the infection to the onset of the symptoms;

at the most, a 'temporal' correlation has to be established [2]. Several studies have shown the role of immunological factors in the causation of obsessive compulsive disorder (OCD) [3]. The diagnostic criteria for PANDAS as per NIMH (National Institute of Mental Health) [4] are shown in table 1. These symptoms can be severely debilitating and distressing for the patient and family. Although GABHS infection is prevalent in India [5], surprisingly there is lack of cases of PANDAS being reported from here. This is possibly due to lack of awareness regarding the same amongst the psychiatric fraternity. The few reports and the poor understanding of this condition need to be overcome. We thus report a case of PANDAS here with onset of symptoms in adolescence.

Table 1 Diagnostic criterion for PANDAS as per NIMH.

The criteria used to diagnose PANDAS are as follows: -
1) Presence of clinically significant obsessions, compulsions and/or tics
2) Unusually abrupt onset of symptoms or a relapsing-remitting course of symptom severity.
3) Prepubertal onset
This criterion is an arbitrary one, chosen because post-streptococcal reactions are rare after age 12. This criterion allowed NIMH to study a more homogeneous group of patients, but the investigators recognize that PANDAS could occur (rarely) among adolescents
4) Association with other neuropsychiatric symptoms
Severe separation anxiety, Generalized anxiety, Motoric hyperactivity, abnormal movements, and a sense of restlessness, hyper-sensitivity to light or sounds,

distortions of visual perceptions, and occasionally, hallucinations, Concentration difficulties, a new onset of bed-wetting, Irritability, and emotional lability. Abrupt onset of depression can also occur, with thoughts about suicide, Developmental regression, including temper tantrums, "baby talk" and handwriting deterioration

5) Association with streptococcal infection

CASE REPORT:

Patient A, 15 year-old male with no past or family history of any psychiatric or neurological illness, presented to the outpatient psychiatric clinic of the university hospital with sudden onset of motor and vocal tics along with obsessions regarding contamination and compulsive acts of washing, spitting and prolonged bathing. 2 months prior to this patient had developed high grade fever, cough and throat pain which lasted for 10 days. After the treatment from physician, his general condition had improved. However, it was noticed by the family members that the patient had become very restless. Within 3 days following improvement in his symptoms patient started spitting repeatedly along with the repetitive sudden grunting noises and repetitive blinking and frowning gestures. Patient also started washing his hands repeatedly and taking prolonged bathing for which the patient expressed distress to the parents but was unable to stop. Patient also had abrupt onset of other compulsions like ordering, arranging and counting numbers many times. These acts were repeated several times during the day. Patient's condition worsened with time, as his sleep and appetite decreased markedly, he became very irritable, showing verbal as well as at times physical aggression towards family and stopped going to school. After various consultations from pediatricians, patient was referred for a psychiatric consultation. At the onset patient had Yale Brown Obsesssion

Compulsion Rating Scale (Y-BOCS) scores of 34. Abrupt onset of tics, obsessions and compulsions prompted the psychiatric team to investigate the patient. Computed topographic scan of the brain was found to be unremarkable. Anti-streptolysin O titres were also done which were found to be markedly raised to 505 units. ANA profile of the patient revealed PCNA, dsDNA, AMA-M-2 antibodies titres to be significantly raised. A diagnosis of PANDAS was made and the management in collaboration with a paediatric neurologist was started. Patient was started on Cap fluoxetine 20mg/day which was raised to 40mg/day on an outpatient basis with psycho education of the patient and family members. Currently patient is in our and paediatrician follow up and showing consistent improvement, with ASO titres as 300 units and Y-BOCS score of <7.

DISCUSSION:

The Murphy et al. [6, 7] recently helped in validating PANDAS as a disorder characterized by high streptococcal antibody titres. A review study reported that no case of PANDAS was documented from India [8]. The literature search reveals that only few of PANDAS cases have been reported from India out of which only one of the cases could classically fit into the NIMH diagnostic criteria [9]. Our case fits the classical description which is laid down by the NIMH. It has been suggested that a subgroup of children with sudden tics, obsessions and compulsions, have their symptoms triggered or exacerbated by the GABHS. The symptoms may have been caused because of an autoimmune reaction between the caudate tissue and the anti neuronal antibodies which were formed against GABHS [10].

As described in the diagnostic criteria, the case presented by us probably had a similar progress of events, as was evidenced by the temporal and abrupt onset of symptoms

following throat infection as validated by an increased ASO titres as well as ANA profile. PANDA's clinical course was characterized by a symptom pattern, which showed significant improvement with decreasing ASO titres also seen in our patient. Children with PANDAS-related obsessive-compulsive symptoms benefit from cognitive behavioral therapy and/or anti-obsessional medications. Along with that streptococcal infection should also be treated effectively. Immune-based therapies include plasmapheresis, intravenous immunoglobulin and corticosteroids have also been advocated in the treatment of PANDAS [11].

We report this case as our case is atypical with its onset in adolescence unlike the usual onset of PANDAS < 12 years of age. The lack of cases of PANDAS in the Indian context can be attributed to an inadequate awareness regarding this disorder and an infrequent liaison among the various specialties. A good cross referral between the paediatricians and the psychiatrists can serve in decreasing the disability associated with this disease.

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