

Early Antibiotic Treatment in a Child with PANDAS: A Case Report

PANDAS Tanılı Bir Çocukta Erken Antibiyotik Tedavisi: Bir Olgu Sunumu

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ABSTRACT

In recent years, PANDAS has been frequently described as a type of childhood neuropsychiatric disorder. Obsessive-compulsive symptoms, tics and other neuropsychiatric changes may occur after group A-beta hemolytic streptococcal (GABHS) infection. Especially treatment of PANDAS is unclear and the debate about this continues. Early antibiotic treatment was useful in this case of PANDAS. Early approach and practices for treatment are also discussed in this case report. (*Archives of Neuropsychiatry 2010; 47: 169-70*)

Key words: PANDAS, penicillin, obsessive-compulsive disorder, child

ÖZET

Çocukluk çağı nöropsikiyatrik bozuklukları içinde PANDAS (pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections) son yıllarda sıkça tanımlanmaktadır. A grubu beta hemolitik streptokok enfeksiyonu sonrası Obsesif kompulsif belirtiler, tik bozukluğu veya farklı nöropsikiyatrik değişiklikler olarak görülebilmektedir. Özellikle tedavi karmaşası yaşanmakta ve buna bağlı hala tartışmalar devam etmektedir. PANDAS tanısı alan bu vakada erken dönemde kullanılan antibiyotik uygulamasının etkinliği görülmüştür. Ayrıca bu vaka sunumunda erken dönem yaklaşım ve tedavi uygulamaları tartışılmıştır. (*Nöropsikiyatri Arşivi 2010; 47: 169-70*)

Anahtar kelimeler: PANDAS, penisilin, obsesif kompulsif bozukluk, çocuk

Introduction

The spectrum of PANDAS is characterized by a sudden onset of motor tics and obsessive-compulsive disease (OCD) following a group A-beta hemolytic streptococcal (GABHS) infection. OCD is defined as recurrent compulsions or obsessions accompanied by marked distress, consuming more than one hour per day, or interference with daily functions. The PANDAS clinical course was characterized by a relapsing-remitting symptom pattern with significant psychiatric comorbidity accompanying the exacerbations; emotional liability, separation anxiety, nighttime fears and bedtime rituals, cognitive deficits, oppositional behaviors, and motoric hyperactivity were particularly common (1-4). Especially different obsessive-compulsive symptoms can be caused by GABHS infection in children and adolescents (5). The treatment of PANDAS is still unclear according to some research studies (6-8). We assessed short-term antibiotic and antidepressant treatment in this case of PANDAS.

Case

S.S., a 13-year-old boy, was referred to our out-patient unit due to some compulsive behaviors like touching, checking and repeating rituals. His complaints began three or four days after pharyngitis, an upper respiratory tract infection, and the severity of these symptoms increased gradually in a week. His psychiatric evaluation showed anxious mood, appropriate affect, sleeplessness, loss of appetite and attention deficit.

He had not shown any compulsive behaviors and/or any other psychiatric disorders before his infection. His compulsions, which appeared after pharyngitis, included touching his belongings frequently with his all fingers at the same time, checking the doors whether they are locked or not and his homework related with reading, symmetry in his daily affairs and repeating rituals like sitting down and standing up from chair. His school performance was decreased and the relationships with his friends and his family were deteriorated because of his compulsions, although he was described as a

well-adjusted boy in his school and relationships. He showed acute onset of an age-inappropriate concern about separating from his mother.

Additionally, he had no history of seizure or any other psychiatric disorders. He had been using an antibiotic (Amoxicillin-Clavulanate) because of his infection, but his family stopped the drug when his symptoms aggravated several days after beginning medication. They thought that the oral antibiotic treatment had caused the symptoms. They stopped his medication until emergency assessment at the psychiatric unit.

Physical examinations and investigations (including complete blood count (CBC), biochemical analyses, cardiological evaluation, hs-CRP (high-sensitivity C-reactive protein) were normal, but serum Antistreptolysin O (ASO) titer was 1333 Todd units (Normal value: 170-330 Todd units) and Erythrocyte Sedimentation Rate (ESR) value was 32/first hour (Normal 0-10). The throat culture was negative (This was probably due to the antibiotic medication taken for several days) at his emergency assessment. Furthermore, the family history was positive for obsessive-compulsive personality disorder - his mother and his sister were OCD sufferers.

We considered these symptoms as probable PANDAS and the patient was commenced on Alprazolam 1mg/day, Fluoxetine 20 mg/day and Penicillin G Benzathine-injection 1.200.000 unit for three weeks. In addition, his oral penicillin treatment was restarted. The symptoms including compulsions reduced dramatically one week after initiation of the medication. He did not report any compulsion six weeks later and ESR and ASO value reduced to 22/first hour and 1248 Todd units, respectively. Three months later, treatment was ceased due to improvement in his symptoms. Penicillin G Benzathine 1.200.000 unit was used for three times and then stopped. No aggravation of the symptoms was observed during a six-month period without any medication.

Discussion

In this case report, symptoms of OCD had sudden onset. The first three weeks are particularly important for revealing OCD symptoms in these cases. OCD symptoms of patient had begun suddenly after upper respiratory tract infection. This course has shown similarity with PANDAS criteria of the National Institute of Mental Health. Especially professionals should be alert to sudden onset of OCD symptoms in order to initiate early treatment.

We used antibiotic treatment in addition to psychiatric treatment for eradicating the streptococcal infection. Our patient's neuropsychiatric symptoms have disappeared completely following the antibiotic treatment despite the

persistence of high ASO titer. ASO is an antibody response peaking in 2-4 weeks and its blood levels may remain high for about 6-8 weeks. Therapeutic Plasma Exchange and Intravenous Immunoglobulin (IVIG) are found successful in reducing OCD and other behavioral symptoms in children with PANDAS (9). But these treatments are not recommended by some authors unless other interventions fail (10). The antibiotic treatment is easily applicable in daily practice. So this type of treatment should be given priority, in addition to other treatments, due to its benefits in such cases. Psychiatric and medical treatments of OCD are easily applicable in children with PANDAS.

The PANDAS clinical course was characterized by a relapsing-remitting symptom pattern with significant psychiatric comorbidity in these cases. So clinicians should be alert to these patients. All of OCD after GABHS infection cannot be accepted as PANDAS. PANDAS have different characteristics in terms of onset and course in patients with OCD symptoms.

References

1. Swedo SE, Leonard HL, Mittleman BB et al. Identification of children with pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections by a marker associated with rheumatic fever. *Am J Psychiatry* 1997; 154:110-2. [Abstract] / [PDF]
2. Allen AJ, Leonard HL, Swedo SE. Case study: a new infection triggered autoimmune subtype of pediatric OCD and Tourette's syndrome. *J Am Acad Child Adolesc Psychiatry* 1995; 34:307-11. [Abstract] / [Full Text]
3. Swedo SE, Rapoport JL, Cheslow DL et al. High prevalence of obsessive-compulsive symptoms in patients with Sydenham's chorea. *Am J Psychiatry* 1989; 146:246-9. [Abstract] / [PDF]
4. Swedo SE, Leonard HL, Garvey M et al. Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections: clinical description of the first 50 cases. *Am J Psychiatry* 1998; 155:264-71. [Abstract] / [Full Text] / [PDF]
5. Abali O, Nazik H, Gurkan K et al. Group A beta hemolytic streptococcal infections and obsessive-compulsive symptoms in a Turkish pediatric population. *Psychiatry Clin Neurosci* 2006; 60:103-5. [Abstract] / [Full Text] / [PDF]
6. Aguilera-Albesa S, Sánchez-Carpintero R, Villoslada-D'az P. Tic disappearance after penicillin treatment in a patient with PANDAS. *Rev Neurol* 2009; 48:221-3. Spanish. [Full Text]
7. Batuecas Caletro A, Sánchez González F, Santa Cruz Ruiz S et al. PANDAS Syndrome: a new tonsillectomy indication? *Acta Otorrinolaringol Esp* 2008; 59:362-3. [Abstract] / [Full Text]
8. Beşiroğlu L, Ağargün MY, Ozbebit O et al. Therapeutic response to plasmapheresis in four cases with obsessive-compulsive disorder and tic disorder triggered by streptococcal infections. *Turk Psikiyatri Derg* 2007; 18:270-6. [Abstract] / [Full Text] / [PDF]
9. Perlmutter SJ, Leitman SF, Swedo SE et al. "Therapeutic Plasma Exchange and Intravenous Immunoglobulin for Obsessive-Compulsive Disorder and Tic Disorder in Childhood". *The Lancet* 1999; 354:1153-8. [Abstract] / [Full Text] / [PDF]
10. Barthel RP. Penicillin prophylaxis for neuropsychiatric exacerbations triggered by streptococcal infections. *Biol Psychiatry* 1999; 45:1564-71. [Abstract] / [Full Text] / [PDF]