

Establishing PANDAS Identification and Treatment

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Abstract

PANDAS - Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections.

PANDAS is a hypothesis which has been based on finding few children with obsessive compulsive disorder or tic disorder followed by *Streptococcus* group A bacteria. There is been consideration of autoimmune attack on basal ganglia after bacterial infection leading to psychiatric disorders. Hence PANDAS can be considered under autoimmune disorder which is exclusive to prepubertal children which affects their neuropsychological system.

Along with OCD or tic disorder, the other symptoms seen in affected children in clinical cases are exaggerated changes in mood, urinary incontinence, anxiety and handwriting downturn. Further affected basal ganglia could affect communication skills which can be mislead to the diagnosis of autism.

Researchers also considering the mechanism of PANDAS similar with the pathophysiology of rheumatic fever which is also triggered by *Streptococcus* infection and there is an attack of antibodies on brain and heart and causing complications of neuropsychology and cardiology. Unlike rheumatic fever, PANDAS is not associated with cardiac complications.

The strongest support of PANDAS hypothesis is based on controlled study on 144 children at US National Institute of Health.

Diagnosis of PANDAS is done by the criteria established:

- Tic disorder/OCD present
- Prepubertal age on the onset of neuropsychiatric symptoms
- History of prior streptococcal infection following the neuropsychiatric symptoms
- Adventitious movements during symptom exacerbation
- History of episodic/sudden onset of symptoms with partial/complete remission.

Treatment associated with PANDAS is similar like in tic disorder and OCD including cognitive behaviour therapy. As not all physicians could make a clear diagnosis of PANDAS as it is overlapped with symptoms of tic disorder or OCD.

Since it is hypothesised to be autoimmune disorder, one study showed positive response to symptoms with intravenous plasma exchange to reduce antibodies and their affect. Although in 2010, the independent study of the same was not fruitful.

Since the PANDAS hypothesis is not proven and due to lack of controlled case studies, intravenous plasma exchange therapy or long term prophylactic streptococcal infections treatment is not recommended.

Keywords: PANDAS; Group A Beta-Hemolytic Streptococcal (GABHS); Obsessive Compulsive Disorder (OCD)

Introduction

Paediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS) is associated with second time infection caused by group A beta-hemolytic streptococcal (GABHS) infections with a rapid onset of obsessive compulsive disorder (OCD)

mainly in children. It is proposed that the antibodies produced in response to GABHS infection lead to disturbances in basal ganglia in brain and effect emotions and coordination. Untreated and ignorant cases are seen exaggerated and lead to Obsessive compulsive disorder or Tourette syndrome.

Case Report

The mother of an 8-year old girl brought her to pediatric department. She complains about abnormal involuntary movements in her daughter's face and shoulders. She has noticed this change since last two weeks after her daughter suffered from bacterial infection symptoms of high grade fever, sore throat and blocked nose. The diagnosis of streptococcal infection was made on the basis of findings of anti-streptolysin O titers. After few days, parents noticed the involuntary movements (sudden, rapid and non-rhythmic) in their awoken child. The family history about psychiatric association was absent. The patient's psychiatric evaluation showed that she developed visual hallucinations and has also showed withdrawn behaviour. Other blood reports were normal. EEG and MRI was normal.

Thus, the girl was diagnosed with PANDAS syndrome based on the prior streptococcal infections followed by neurological symptoms.

Diagnostic criteria

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Therapeutic option

Treatment associated with PANDAS is similar like in tic disorder and OCD including cognitive behaviour therapy. Medications involve selective serotonin reuptake inhibitors. As not all physicians could make a clear diagnosis of PANDAS as it is overlapped with symptoms of tic disorder or OCD [1-5].

Conclusion

PANDAS can be considered under autoimmune disorder which is exclusive to prepubertal children which affects their neuropsychological system.

It needs more scientific exploration. More close follow up studies are needed especially in countries like India, South Africa where infection rate is very high and patients are huge in number.

The lack of controlled studies and overlapping neuropsychological symptoms dissolve the proper diagnosis of PANDAS.

Bibliography

1. PANDAS-Questions and Answers.
2. PANDAS.

3. How a controversial condition called PANDAS is gaining ground on autism.
4. What is PANDAS?
5. Pediatric Acute-onset Neuropsychiatric Syndrome (PANS) Care.

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