

INTRODUCTION

Rheumatic fever is an inflammatory disease that may develop after an infection with streptococcus bacteria (Such as streptococcal sore throat or scarlet fever). The disease can affect the heart, joints, skin, and brain. Rheumatic fever mainly affects children ages 6 -15yrs, and occurs approximately 20 days after streptococcal sore throat or scarlet fever. Sydenham's chorea is a major manifestation of acute rheumatic fever and is the only evidence of rheumatic fever in approximately 20% of cases (*Kliegman et al., 2007*).

Sydenham's chorea is the most common form of autoimmune chorea. Despite the decline in its frequency worldwide, it remains the most prevalent form of chorea in children even in developed areas. Its usual age of onset is 8 to 9 years, but some patients have developed chorea during the third decade of life.

In most series, there is a female preponderance. Typically, patients develop Sydenham's chorea 4 to 8 weeks after an episode of group A beta haemolytic streptococcal pharyngitis. It is estimated that no more than one quarter of patients with acute rheumatic fever develop Sydenham's chorea (*Cardoso 2006*).

Sydenham's chorea is characterized by motor: mainly choreic involuntary movements and psychiatric symptoms: including anxiety, depression, obsessive compulsive, attention deficit hyperactivity disorders. Symptoms of Sydenham's

chorea may be considered as result of basal ganglia dysfunction determined by autoimmune mechanisms elicited by streptococcal infection (*Teixeira et al., 2007*).

Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infection (PANDAS) shares the same mechanism with Sydenham's chorea, but (PANDAS) has not been shown to require penicillin prophylaxis. Thus it is important to distinguish between them (*Gimzal et al., 2002*).

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental condition where the affected children have inattention, impulsiveness and hyperactivity. The Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition (DSM-IV) requires the presence of at least six out of nine behavioural features that must have been present for at least six months, are present in all settings to diagnose ADHD. ADHD had onset before the age of seven and are causing significant distress or impairment (*Carter et al., 2008*).

Attention deficit hyperactivity symptoms have been described in patients with Sydenham's chorea (*Gimzal et al., 2002*).