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Case Report

Wolff-Parkinson-White syndrome: the supreme master of camouflage

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ABSTRACT

Wolff-Parkinson-White (WPW) syndrome is a condition in which there is an aberrant conduction pathway between the atria and ventricles, resulting in tachycardia. Most of the patients remain asymptomatic throughout their lives; however, approximately half of the patients with WPW syndrome experience symptoms secondary to tachyarrhythmias, like paroxysmal supraventricular tachycardia, atrial fibrillation, atrial flutter, and, rarely, ventricular fibrillation and sudden death. Patients with WPW syndrome may present with a multitude of symptoms such as unexplained anxiety, palpitations, fatigue, light-headedness or dizziness, loss of consciousness, and shortness of breath and rarely with ischemic chest pain. We report a case of a 38-year-old male presented with various vague symptoms like feelings of constipations and anxiety accompanied by psychosocial stressors, lack of sleep with episodes of palpitations which was attributed to underlying anxiety and depressive disorder and stated on various antidepressive medication, but without any relief of symptoms. He was later diagnosed with WPW syndrome. Keeping cardiac dysrhythmia within the differentials would help in early diagnosis and appropriate treatment.

Keywords: WPW syndrome, Tachyarrhythmias, Accessory pathway, Electrocardiogram

INTRODUCTION

Wolff-Parkinson-White (WPW) syndrome, also referred as pre-excitation syndrome, is characterized by accessory pathway (bypass tract) between atria and ventricles that conducts in parallel with atrioventricular node-his bundle but faster resulting in supra ventricular tachycardia.[1,2]

Historically, Louis Wolff, John Parkinson and Paul D. White 1st described in 1930 in series of 11 healthy young people with functional bundle branch block, abnormally short PR interval and paroxysms of tachycardia.[3]

The patient who was evaluated by us presented with a very subtle plethora of symptoms that was dismissed as generalized anxiety or stress secondary to his demanding work and family responsibilities. The symptoms were, in fact, a manifestation of a somewhat rare cardiac disorder requiring further workup and management. The patient's vitals and cardiovascular examination were entirely within the normal limits. A high index of suspicion was required to diagnose WPW syndrome especially in patient with very atypical symptoms.

CASE REPORT

A 38-year-old male presented to clinic with concerns of brief ongoing episodes of anxiety every couple of weeks. He described 8-year history of episodes characterized as a squeezing sensation in chest followed by palpitations.

Patient started these symptoms while he was doing MBA and afterward, he presented with symptoms of constipations and anxiety. He was labelled as a case of IBS (irritable bowel syndrome). Subsequently he reported having numerous stressful events, lack of sleep and worry and concern regarding his health at this stage in life.

These symptoms caused decline in his scholastic performance, and he was diagnosed depressive illness

and started on various antidepressive medications (Valproate and SSRIs). Subsequently he lost to follow up because of COVID and he continues to have occasional anxiety episodes with palpitations. He reported work exhaustion and thought stress could be contributing to his symptoms.

At the time of the presentation, he presented to neurology department with generalised tremulousness. He was referred to Cardiology department for evaluation of intermittent episode of palpitation. At the time of presentation, he had no cardiac complaints.

He denied presyncope/syncope. He also denied dyspnoea on exertion/at rest. He denied any symptoms suggestive of exertional chest pain, orthopnoea, paroxysmal nocturnal dyspnoea, weight gain/pedal oedema.

The patient denied any family history of sudden cardiac death or cardiac arrhythmias or coronary artery disease.

On examination, his BP-130/80 mmHg in the right upper limb. His pulse rate was 88 beats/minute respiratory rates were 18 breaths/minute and arterial oxygen saturation on room air was 98%. His physical examination including cardiovascular examination were completely normal.

Investigations

His routine blood investigations including complete blood count, complete metabolic profile including serum electrolytes, lipid profile, thyroid-stimulating hormone were within normal limits. MRI brain was performed to evaluate cause of tremors, which was found to be normal.

An electrocardiogram (EKG) was ordered to assess chest discomfort (Figure 1).

An echocardiogram was ordered to assess valvular structure and it revealed normal right and left ventricular function and no valvular abnormalities (Figure 2).

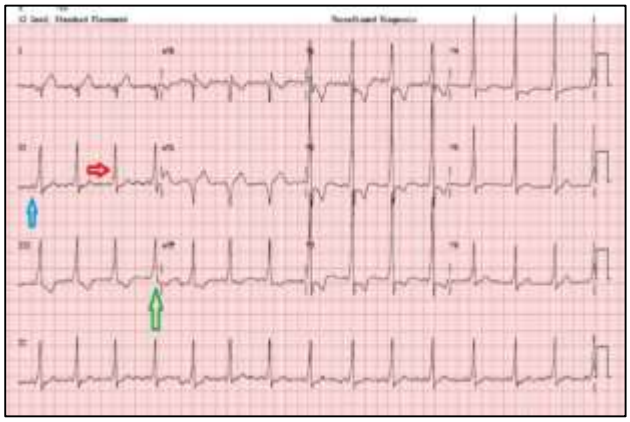

Figure 1: EKG ordered in clinic showed shortened PR interval (blue arrow), delta waves (red arrow), and wide QRS complexes (green arrow) EKG, ECG.

Figure 2: Echocardiogram (A4C view) of the patient: within the normal limits.

Treatment

His EKG was suggestive of WPW syndrome with left lateral pathway. In view of definitive organic problem of WPW syndrome which can explain his palpitation and secondary depression he was advised EP study and subsequently he underwent catheter ablation.

His tremulousness was considered to be drug induced, hence offending drugs were tapered and stopped and after six months follow up, he had significant improvement in his palpitation and tremulousness as well.

DISCUSSION

WPW Syndrome refers to the presence of a congenital accessory pathway (AP) and episodes of tachyarrhythmias. ECG features of WPW in sinus rhythm include: (a) PR interval <120 ms, (b) slurring slow rise of initial portion of the QRS, known as a delta wave, (c) QRS prolongation > 110 ms, (d) discordant ST-segment and (e) T-wave changes and pseudo-infarction pattern in up to 70% of patients.[4]

The WPW pattern is applied to the patient with preexcitation manifest on an ECG in the absence of symptomatic arrhythmias and WPW syndrome is applied to the patient with both preexcitation manifest on an ECG and symptomatic arrhythmias involving the accessory pathway.

Patients with Wolff-Parkinson-White syndrome may present with a multitude of symptoms such as unexplained anxiety, palpitations, fatigue, light-

headedness or dizziness, loss of consciousness, and shortness of breath and rarely with ischemic chest pain.[5,6]

Some patients with WPW syndrome experience symptoms secondary to tachyarrhythmias, such as atrial fibrillation, atrial flutter, paroxysmal supraventricular tachycardia, and, rarely, ventricular fibrillation and sudden death.[7] The overall risk of sudden cardiac death in WPW syndrome is estimated at 0.1% per year in asymptomatic patients and 0.3% per year in symptomatic patients.[6]

Treatment of mild and asymptomatic cases consists of anti–arrhythmic medications. Treatment of symptomatic cases includes radiofrequency ablation of the aberrant conducting bundle which is responsible for the pre-excitation, which markedly reduces risk of sudden cardiac death.[8]

This patient presented with various vague symptoms like feelings of constipations and anxiety accompanied by psychosocial stressors, lack of sleep with episodes of palpitations which was attributed to underlying anxiety disorder. Keeping cardiac dysrhythmia within his differential diagnosis allowed for accurate diagnosis and treatment.

CONCLUSION

This case report perfectly portraits why we should remain critical and vigilant while assessing patients with anxiety symptoms which may be often considered "psychosomatic". Otherwise, fewer common disorders such as WPW syndrome can easily be neglected. Our patient presented with various vague symptoms like feelings of constipations and anxiety accompanied by psychosocial stressors, lack of sleep with episodes of palpitations which was attributed to underlying anxiety disorder. Keeping cardiac dysrhythmia within his differential diagnosis allowed for accurate diagnosis and treatment. Based on previous reports many members of WPW support group went undiagnosed for months to years while undergoing psychotherapy and medical management for anxiety disorders and were eventually diagnosed with WPW syndrome. While evaluating patients for anxiety, we must keep a broad differential diagnosis in mind.

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