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WPW syndrome: review of literature

Abstract

Wolff-Parkinson-White (WPW) disorder is a disorder where there is additional accessory electrical pathway in the heart. Wolff-Parkinson-White syndrome (WPW) is the commonest form of ventricular pre-excitation. Wolff-Parkinson-White syndrome is not rare in the emergency department. Its early recognition and prompt treatment gives fast restoration to sinus rhythm. Early refer to cardiologist for electrophysiological study is necessary for early diagnosis and needed intervention. The patient with the Wolff-Parkinson-White (WPW) ECG design has much in the same way as patients with different conditions, like, long-QT disorder and Brugada disorder, because in sinus rhythm electrocardiogram (ECG) is different as compared to tachyarrthymic status of the same patient another differential with WPW syndrome will be LGL syndrome where delta wave will be absent

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Introduction

Electrical signs complete a specific pathway of the heart. This helps the heart beat regularly and prevents from having any additional thumps or pulsates happening too early. In individuals with WPW disorder, a portion of the heart's electrical signs have an accessory pathway. This may come up with a fast heart rate called supraventricular tachycardia.[1] WPW syndrome is a congenital cardiac pre-excitation syndrome that comes from abnormal cardiac electrical conduction via an additional pathway that can result in symptomatic and life-threatening arrhythmias. The electrocardiographic (ECG) criteria of WPW pattern consist of a short PR interval and QRS with an initial slurring upstroke ("delta" wave) in the presence of sinus rhythm. The term WPW syndrome is reserved for an ECG pattern consistent with the above-described findings along with the coexistence of a tachyarrhythmia and clinical symptoms of tachycardia such as palpitations, episodic light-headedness, presyncope, syncope, or even cardiac arrest.[2]

It is important to differentiate it from another pre excitation syndrome like Lown-Ganong-Levine (LGL) syndrome, this may remain silent in some patients and during routine check-ups surprisingly it is found out.[3]

Etiology

It is a congenital accessory pathway being associated with certain congenital conditions like atrial septal defect, hypertrophic cardiomyopathy and Epstein's anomaly. This pathway becomes important for orthodromic and antidromic conduction and circus phenomenon taking place during tachyarrhythmia's resulting into life threatening conditions in a totally asymptomatic person.[4]

It may be asymptomatic or

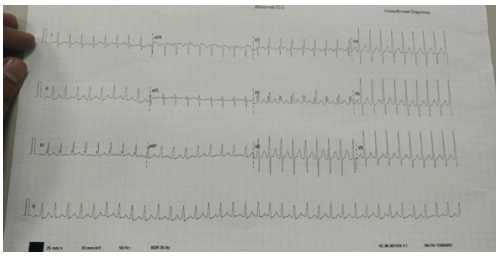
Tachypnea, irritability, pallor, intolerance of feedings, evidence of congestive heart failure if the episode has been untreated for several hours, palpitation, dizziness or syncope, dyspnea, anxiety and sudden cardiac arrest will result.[5] Physical examination may be important but at certain times it may not be diagnostic and congenital anomalies like Epstein's, Atrial septal defect(ASD), Hypertrophic cardiomyopathy(HCM) have to must be kept in mind, diagnostic add will be proper ECG studies, 2D echo cardiography and electro physiological studies.[6]

In ECG there will be short PR interval (<120 ms), prolonged QRS complex (>120ms).

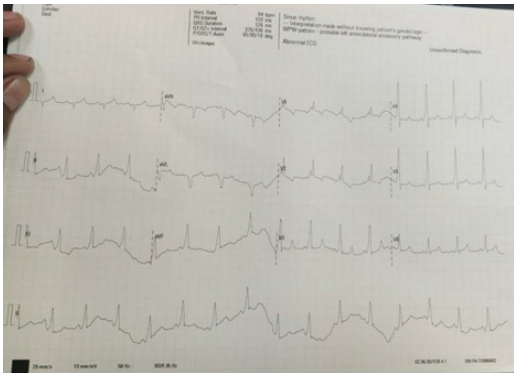
QRS morphology consists of slurred delta wave

It can be of two types: in type 1 there will be right bundle branch block pattern with delta wave are upright and in type 2 there will be left bundle branch block pattern with delta wave is negative in v1, v2, v3 and positive in v4, v,5 v6; this will be seen only during sinus rhythm, during atrial fibrillation the QRS width becomes normal and delta wave disappears and in such conditions p wave will be absent, so during emergencies any medical intervention to control the ventricular rate like diltiazem, verapamil or digoxin if tried can result into ventricular asystole so in emergency with hemodynamic instability mechanical or electrical cardioversion will be the treatment of choice.[7] Electrophysiological studies will be important to identify the site and number of accessory pathways for radiofrequency ablation treatment.[8]

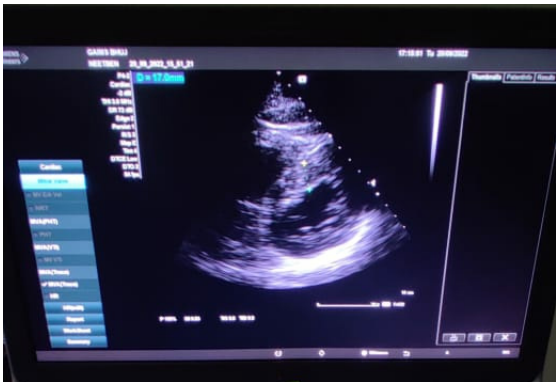
Here we will submit ECG of one of our research



Here patient presented with atrial fibrillation with fast ventricular rate.



After the rhythm was reverted with cardioversion the finding of WPW was identified, it was found to be type A "WPW".



Echocardiography of the same patient at short axis LV apex shows hypertrophic cardiomyopathy (ASH).

Conflict of interest

None.

Acknowledgments

None.

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