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Anesthesia for Surgery in Exhibits of Wolff – Parkinson – White (W.P.W. Syndrome) In Sri Venkateswara Medical College and Hospital

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ABSTRACT: Minor surgery on a healthy asymptomatic young individual could have an Abnormal Reentry Pathway of Conduction in the heart, which may be life threatening, resulting in sudden death. This is a report a successful management of a case of fibroadenoma breast,which exhibited W.P.W. Syndrome.
Keywords : W.P.W. Syndrome, Amiodarone.

I. INTRODUCTION:

Normally the heart beat originates in the S.A. node located in the Right atrium. The impulses then travel to A.V. Node and through the Bundle of His, Purkinjee system to the ventricles, which is the normal regular pattern.

W.P.W. Syndrome is a form of Supra Ventricular Tachycardia originating above the ventricles, when along with the normal conduction pathway there is an extra ACCESSORY PATHWAY. This extra pathway between atria and ventricles, bypasses the A.V.Junction, preexciting the ventricles.

This Accessory Pathway – conducts impulses faster than normal and in both directions. Further the impulses from the S.A. node are conducted through the normal pathway and through the extra pathway around the heart in a circular pattern causing on intense Tachycardia called Re entry Tachycardia.

The ventricular pre-excitation causes an earlier than normal deflection on the E.C.G. designated as delta wave. The concern here is the possibility of atrial fibrillation with a fast ventricular response, worsening the Ventricular fibrillation leading to fatal morbidity.

TYPES OF W.P.W. SYNDROME

1. W.P.W. Syndrome (Conduction through Kent Bundle)
2. WPW variants.

a) Lown – Ganong – Levine (LGL) Syndrome (conduction through James Bundle)
b) Conduction through unusual Mahaim fibres producing fascicular tachycardia.

II. CASE REPORT :

A 21 year old young woman with a painful mobile, mass in the upper outer quadrant of the breast gradually increasing in size diagnosed as (?) fibroadenoma breast was posted for Excision Biopsy.

She gave a history of mild palpitations when subjected to fear. But there was no history of dizziness, fainting attacks or dyspnoea. There was no history of [H/O.] previous surgery.

On examination her cardio vascular system was normal. A routine E.C.G. taken, revealed a shortening of the P.R. interval and a slurring of the QRS complex called the Delta Wave.

Xray Chest was normal.

An Echo taken showed Normal Study with an E.F. of 65%. All other investigations were normal.

She was accepted for general anesthesia under Grade III risk with the risk explained to the patient. A high risk consent was taken. pre-operatively and was started on Amiodarone.

Since the surgery was not complex and non-cardiac, noninvasive routine monitoring of Oxygen saturation, respiratory rate, blood pressure and ECG was carried out.

In the operation theatre, Amiodarone belonging to Class III Groups of anti arrythymic drugs and Adenosine, Verapamil drugs effective in treatment of tachycardia associated with W.P.W. Syndrome were kept ready Atropine was avoided since it would increase the heart rate.

A defibrillator for Electrical Cardio version was kept ready. The objective of anesthesia was to avoid increased sympathetic nervous system activity due to anxiety or hypotension.

Glycopyrolate along with Ondensetron was given IV as premedication.

I.V. Fentanyl followed by I.V. propofol were given. An adequate depth of anesthesia was vital, since light planes of anesthesia would trigger re-entry pathways. Excision of the mass was done under general anaesthesia[GA] through Face Mask with $N_2O + O_2$ supplemented with. propofol I.V.

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Discussion :
Incidence :
W.P.W. a RARE CONDITION, occurs between the ages of 30 and 40
1. Random – Occurs in 1-3 /1000 persons. Higher incidence in men, due to a higher incidence of multiple accessory pathways.
2. Congenital - In some it is inherited. In genetic predispositions, relatives have an incidence of 55/1000 persons. 7-20% patients exhibit congenital defects of the heart.
Patients with W.P.W. Syndrome are prone to sudden tachy dysarrhythmias.
symptomatic tacydysrhythmias associated with the WPW SYNDROME typically begin during early adulthoodhood and pregnancy with the initial manifestation of the syndrome.[1]
In some patients the first manifestation of the W.P.W. Syndromes,is 'Sudden Death' due to Ventricular Fibrillation.[2a,b]
Antidromic (Wide Complex) tachydysarrhythmias are treated with drugs or Electrical Cardio version.
Orthodromic (narrow complex) arrhythmias could be managed as foll.-:

a. Carotid Massage
b. Valsala Maneuver (Stimulation of Post Pharynx)
c. Adenosine

The first manifestation of WPW syndrome may appear during the perioperative period.[3]

Digoxin and verapamil increase the conduction of the Bypass tract and should be avoided. Transvenous radio frequency catheter on Ablation of the Bypass tract offer life time cure. Patients with W.P.W. Syndrome posted for elective surgery should continue to receive anti-dysrythmic drugs or should be stabilized with them if they are 'symptomatic for reverting to sinus rhythm.

When general anesthesia is given, nervous activity of laryngoscopy is minimized to avoid increased sympathetic and abrupt changes of the intensity of painful surgical stimulation Volatile anaesthetic in appropriate concentration to decrease sympathetic nervous system activity is ideal. N_2O is often combined with volatile anaesthetics Enflurance though rarely used is said to increase the refractory period of accessory pathways and is considered useful in W.P.W. syndrome Thiopentone is alleged to increase aberrant conduction of Cardiac impulses and should avoided.
Propofol normalizes E.C.G.with disappearance of the delta wave, is the appropriate drug for W.P.W. Syndrome.

III. CONCLUSION

Asymptomatic W.P.W. Syndrome diagnosed on routine examination for non cardiac surgery in a young individual can suddenly turn life threatening and even result in sudden death. , Preoperatively, routine E.C.G. for all cases is mandatory.

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