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CASE REPORT

Wolff-Parkinson-White Syndrome in Pregnant Woman With Frequent Syncope

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ABSTRACT

Syncope is a symptom that frequently occurs in pregnant woman. Most of the causes are benign, but some cardiac abnormality should be looked for in the woman with multiple attacks. We present a case of pregnant woman with Wolff- Parkinson- White syndrome that diagnosis was made during pregnancy.

Key words: Wolff-Parkinson- White syndrome, pregnancy, syncope

Pregnancy is a condition that can precipitate arrhythmia and tachycardia. Although most of pregnant women have increased heart rate during her gestation without any symptom, some woman may develop fainting or arrhythmia. Wolff-Parkinson-White syndrome is one form of ventricular preexcitation that can produce symptoms of syncope, palpitation, arrhythmia or sudden death1. Most of pregnant women with syncope or palpitation get an advice of normal physiologic change but some woman may have real cardiac abnormality. This syndrome may be diagnosed firstly during pregnancy from closed observation while she attends antenatal care clinic or from investigation of arrhythmia that she has. We present a case of Wolff-Parkinson- White syndrome in pregnant woman who visited antenatal care clinic and delivered at Thammasat university hospital.

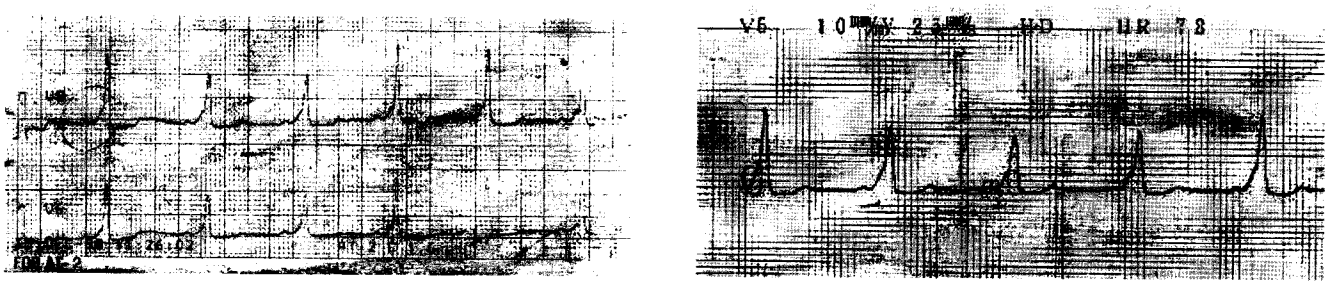

Fig. 1. ECG at 14 weeks of gestation (A) and during labor (B).

Case report

A 34-year-old gravida3 para1 which one term pregnancy that delivered by forceps extraction with unknown indication from other hospital and one ended by inducing abortion at 8 weeks of gestation visited Thammasat hospital firstly at 12 weeks of gestation. She followed up regularly and complained of frequent syncope even during rest or exertion. Her uterine size was compatible with gestation age and no other abnormality was found. During pregnancy, her blood pressure was between 100-110 mmHg systolic and 60-70 mmHg diastolic and pulse rate was between 80-90 beats/ min. Physical examination revealed no neck vein engorgement, normal heart sound, no murmur and no cardiac enlargement. Electrocardiography (ECG) was performed at 14 weeks of gestation and illustrated as figure I. Chest film and echocardiography were performed by cardiologist but no sign of any cardiac abnormality. No medication except iron and vitamin supplements were prescribed. She had spontaneous labor at 39 weeks of gestation and she was monitored with ECG and fetal monitoring during first and second stage of labor but no arrhythmia or fetal distress found. She was delivered by forceps extraction for shortening of second stage of labor. The infant was a healthy female weighing 3000 g with Apgar score of 8 and 9 at 1 and 5 minutes, respectively. After delivery, she was monitored with Holter monitoring for 24 hours but no sign of arrhythmia or tachycardia found. She and her baby were discharged 3 days later and she was advised for radiofrequency ablation.

Discussion

The Wolff-Parkinson- White (WPW) syndrome estimated to occur in approximately 0.1 to 3.0 per 1000 of the general populations, is the form of ventricular preexcitation involving an accessory conduction pathway 2. It occurs when any part of the ventricular myometrium is activated by an impulse originating in the atrium earlier than would be expected. The anatomic substrates for the preexcitation syndrome include several types of accessory A-V connections. The classic electrocardiographic features for diagnosis of WPW syndrome are 1) a PR interval less than 0.12 seconds 2) a slurring of the initial segment of QRS complex, known as delta wave 3) a QRS complex widening with a total duration greater than 0.12 seconds.[1,3] However, these criteria are not always present, and the absence of one or more does not rule out the diagnosis of WPW syndrome. ECG pattern in this patient showed PR interval of 0.16 seconds, QRS complex duration of 0.16 seconds and delta wave as illustrated in V5 and V6 lead in figure I. The majority of patients with this syndrome remain asymptomatic throughout their lives. When symptoms do occur they are usually secondary to tachyarrhythmia such as paroxysmal supraventricular tachycardia, atrial fibrillation, atrial flutter and ventricular fibrillation that may lead to symptoms of palpitation, syncope or a rare incidence of sudden death. Holer monitoring was performed after delivery in this patient but can not detect any cardiac arrhythmia. It may be from short term monitoring and the patient did not have symptoms during monitoring.

The WPW syndrome has also been associated with various cardiac abnormalities such as Ebstein's anomaly, mitral valve prolapse, cardiomyopathy and congenital cardiac anomaly.[2,4] But in most patients, [MSOffice1]however, no heart disease is present as in this patient. Relatives of patient with this preexcitation syndrome, particularly from those with multiple pathway have an increased incidence of preexcitation, suggesting a hereditary mode of acquisition. The incidence of WPW syndrome during pregnancy is unknown, but pregnancy is associated with an increased frequency of arrhythmia in this syndrome.[5,6,7,8] Increased adrenergic sensitivity by estrogen, increased plasma volume, stress and anxiety during pregnancy may be predisposing factors.[7]

Treatment of WPW syndrome in pregnancy is generally similar to that in non pregnant state. No diagnostic or therapeutic intervention is recommended for asymptom-atic patient. If atrial fibrillation occurs, intravenous procanamide is the treatment of choice for

hemodynamically stable patient. Direct current synchronized cardioversion is necessary for hemodynamically unstable patient.[2,3,9] We did not gave any medication to this patient except for ECG monitoring because of no cardiac arrrhythmia was found during pregnancy.

Afridi and co-worker 10 presented successful treatment of narrow complex tachyarrhythmia before and during delivery in woman with WPW syndrome with intravenous adenosine. Arrhythmia could be converted to normal sinus rhythm and fetal heart rate became to normal rate. But he also suggested of avoiding this drug in wide complex QRS and atrial fibrillation because it could induce ventricular tachycardia.

Leffler and co-worker11 reported a case in which adenosine was used to treat supraventricular tachycardia in pregnant woman with WPW syndrome without adverse effect on mother and fetal heart rate. When the patient is asymptomatic or if the tachyarrhythmia is rare and tolerate, no long term antiarrhythmic therapy is indicated. For the patient with frequent and symptomatic tachycardia, quinidine or procanamide plus beta blocker in combination are treatment of choice. The use of flecainidine, propafenone and amiodarone are in limit data for pregnant woman.[3]

Radiofrequency catheter ablation of the accessory pathway is advisable for this patient because in a symptomatic arrhythmia which are not fully controlled by drugs, in patients who are drug intolerant, or in those who do not wish to take drug are the indication for such a treatment. It has high success rate, low frequency of complication and potential effectiveness.[2]

In conclusion, serious cardiac disease may appear or worsen at the time the women get pregnancy. Evaluation of the maternal heart should be complete in pregnant woman with some complaints such as syncope, palpitation or tachycardia that may be overlooked as physiologic change during pregnancy.

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