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Case Report

Supraventricular tachycardia at 37 weeks with electro cardioversion therapy

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ABSTRACT

The health of both the mother and the fetus is at risk when symptomatic maternal arrhythmias occur during pregnancy. Sustained symptomatic arrhythmias should be managed, much like in the non-pregnant population. The specific arrhythmia that has been identified or is suspected must be treated. Electrical cardioversion (ECV) is used to treat supraventricular arrhythmias when medication therapy and physical therapy, such as sinus carotid massage or Valsalva movements, fail or in life-threatening conditions where the patient is hemodynamically unstable. A 27-year-old primipara came to Bengkalis hospital at 37 weeks of gestation due to complaints of palpitations. palpitations felt since 4 hours before admission to the hospital. The patient had experienced the same complaint and was examined by a cardiologist who said that the patient had a tendency to arrhythmia and was given bisoprolol. An ECG examination was carried out in the emergency room, the impression was supraventricular tachycardia with HR 185 bpm, an abdominal termination of pregnancy was carried out, and the cardiologist performed electro-cardioversion (ECV) in the operating room 3 times, and the mother's HR returned to sinus rhythm. The outcome was a baby girl born with a birth weight of 3200 grams, an Apgar score of 8/9. Mother was treated and went home on the 3rd post-operative day in good condition. Provided that a multidisciplinary approach, continuous fetal heart rate monitoring and the possibility to perform a caesarean section are applied, it can be concluded that cardioversion is a safe and effective treatment for maternal tachycardia in pregnancy.

Keywords: Supraventricular tachycardia, Pregnancy, Electro-cardioversion

INTRODUCTION

The health of both the mother and the fetus is at risk when symptomatic maternal arrhythmias occur during the pregnancy. Sustained symptomatic arrhythmias should be managed, much like in the non-pregnant population. The specific arrhythmia that has been identified or is suspected must be treated. The electro-cardioversion is used in the case of supra-ventricular arrhythmias when physical therapy such as sinus carotid massage or when the Valsalva techniques and medication are ineffective if the patient's condition is the life-threatening as well as the hemodynamically unstable.[1-4]

CASE REPORT

A 27-year-old primipara came to Bengkalis hospital at 37 weeks of gestation due to complaints of palpitations. palpitations felt since 4 hours before admission to the hospital. The patient had experienced the same complaint and was examined by a cardiologist who said that the patient had a tendency to arrhythmia and was given bisoprolol. An ECG examination was carried out in the emergency room, the impression was supraventricular tachycardia with HR 185 bpm, he was consulted by a cardiologist and he received the drugs amiodarone and bisoprolol.

Figure 1: Vital sign monitors seen HR 183 bpm.

The patient denied complaints of pregnancy problems such as low back pain or bloody mucus discharge. Ultrasound examination of the fetus found a head presentation with an EFW of 3100 grams, and an FHR of 145 bpm. For her pregnancy, the patient has routinely checked ANC to the obstetrician, said that the condition of the fetus is good and a normal delivery is planned. However, due to the patient's current condition, finally an abdominal termination of pregnancy was carried out, and the cardiologist performed cardioversion (ECV) in the operating room 3 times, and the mother's HR returned to sinus rhythm. The outcome was a baby girl born with a birth weight of 3200 grams, an Apgar score of 8/9. Mother was treated and went home on the 3rd postoperative day in good condition.

One week after surgery, the patient returned to obstetric polyclinic, surgical wound was good, vital signs exam obtained HR 98 bpm, patient received bisoprolol and digoxin from cardiologist. Patients complain that sometimes they still feel their heart pounding, but after taking medicine from a heart doctor the complaints are much reduced. Patient admits to breast feeding her baby and has no problems breastfeeding her baby.

Figure 2: ECV at operating room by cardiologist.

DISCUSSION

The third trimester of pregnancy, according to ACOG, lasts from the 28th to the 40th week of pregnancy.[5] The fetus's respiratory system fully develops, and its viability rises throughout the third trimester of pregnancy.[6] According to Li et al study, a significant proportion of people developed SVT in the third trimester. Major alterations in the body's hemodynamics enhance the risk of an arrhythmia. In addition, persons are more susceptible to arrhythmias during the third trimester due to the greater heart rate.[7,8] This trim people pregnancy has a lower chance of fetal loss than the second. During this increased, penetrate, newborns have a higher chance of surviving outside the womb. Preterm labor can result from several medical procedures that are favorable in the first and second trimesters.[9] The primary non-pharmacological treatment for SVT in all trimesters continues to be vagal exercises. A comprehensive review of the literature revealed that vagal maneuvers have been shown to be safe in all three trimesters of pregnancy. Her pulse rate was initially decreased by the carotid sinus massage; however the arrhythmia was not entirely stopped. Her SVT was stopped after getting a second adenosine IV bolus.[10,11]

Several medical procedures that are beneficial in the first and second trimesters can cause preterm labor.[9] Vagal exercises continue to be the main non-pharmacological treatment for SVT in all trimesters. Vagal maneuvers have been demonstrated to be safe in all three trimesters of pregnancy, according to a thorough evaluation of the literature. The carotid sinus massage initially lowered her heart rate, but it did not completely eliminate the arrhythmia. After receiving a second adenosine IV bolus, her SVT was terminated.[10,11]

Her pulse rate was initially decreased by the carotid sinus massage; however, the arrhythmia was not entirely stopped.[5] Her SVT was stopped after she got a second adenosine IV bolus. The first-line pharmacological treatment for pregnancy in all trimesters is adenosine. Compared to beta-blockers and calcium channel blockers, it converts more quickly. The safest and most efficient SVT treatment plan in all phases of pregnancy should be identified through future retrospective and randomized clinical trials without a placebo.[11]

CONCLUSION

Cardioversion is a tried-and-true, secure, and efficient treatment for maternal tachycardia throughout pregnancy when used in conjunction with a multidisciplinary approach, ongoing fetal heart rate monitoring, and the choice of a caesarean section. The significance of doing the surgery close to fetal monitoring and emergency caesarean section facilities is highlighted by these circumstances.

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