CASE REPORT

A Case Report: Termination of Pregnancy in *Peripartum cardiomyopathy* and Adoption as an Alternative Solution

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ABSTRACT

Peripartum cardiomyopathy is a rare cause of heart failure that affects a woman in her late pregnancy or within the early months of the postpartum period. The failure symptoms can develop gradually or in an acute state if precipitated by other uncontrolled medical conditions commonly hypertension. This case report illustrated a woman in her 30s at 14 weeks 4 days period of gestation, who presented to the hospital with worsened heart failure symptoms. She was categorized as a high-risk pregnancy and thus proceeded with termination of pregnancy (TOP) due to maternal reasons. The case report highlights important discussions regarding the legal aspects of TOP in Malaysia and available options for high-risk women to have children through adoption or surrogacy.
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Keywords: Termination of pregnancy (TOP), *Peripartum cardiomyopathy*, Child Adoption, Surrogacy, Primary care

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INTRODUCTION

Peripartum cardiomyopathy is defined as idiopathic cardiomyopathy presenting with heart failure secondary to left ventricular systolic dysfunction, from one month antepartum up to five months post-delivery, when no other causes of heart failure are evident (1). The cause of peripartum cardiomyopathy in women is still debated. The subtle nature of the symptoms can make diagnosis difficult without a high level of suspicion. A meta-analysis revealed that hypertensive disorder is a significant risk factor in 37% of peripartum cardiomyopathy cases (2). Based on modified WHO risk classification, peripartum cardiomyopathy falls into the class 4 category which is advised against pregnancy due to potentially high risk of mortality if to conceive or to continue the pregnancy. Having said that, some potential recoveries from peripartum cardiomyopathy usually occur between 3 and 6 months postpartum, but now, it is difficult to predict individual outcomes and thus remains arbitrary.

CASE REPORT

A gravida 2 para 1 (with no living child) Muslim woman in her 30s at 14 weeks 4 days period of amenorrhea with underlying chronic hypertension presented to the emergency department with chief complaint of progressive reduced effort tolerance for four days. She has occasionally woken up from sleep due to feeling breathless. She denies chest tightness during the episode and no profuse sweating. Booking was done at 13 weeks period of amenorrhea. Urine pregnancy test was done and noted to be positive. During her first pregnancy 5 months ago, she tragically experienced severe pre-eclampsia, resulting in acute pulmonary oedema and cardiomyopathy. She had to undergo an emergency lower section caesarean section at 28 weeks period of gestation and delivered a baby boy with a birth weight of 920 grams. Unfortunately, the baby succumbed on day 32 of life in the NICU due to severe prematurity and multiple organ failures. She was discharged 12 days after delivery. During her 6 weeks postpartum follow-up, echocardiogram revealed mild left ventricle dilatation and slight reduction in ejection fraction with a value of 46%. This led to a pivotal diagnosis of peripartum cardiomyopathy. She was being highlighted on the

critical nature of condition, importance of continuous monitoring and was recommended for contraceptions. However, she defaulted all her follow-ups including family planning. There is no family history of heart disease or sudden cardiac death.

On examination, she was not cyanotic and not tachypnic. Her blood pressure was 182/98mmHg with pulse rate of 98 bpm, regular rhythm and good pulse volume. Cardiovascular system examination revealed no murmur. For respiratory system examination, there were reduced air entry bilateral lower zones with minimal fine crepitations heard. There was a palpable uterus at the level of the mid suprapubic region corresponding to 12 weeks pregnancy. Otherwise the abdomen was soft, non-tender and had no organomegaly. On palpation of lower limb noted mild pitting pedal edema over the ankle region.

Her blood investigations showed elevated NT-proBNP (3942 pg/mL), other blood investigations results were normal. Chest X-ray showed typical features of heart failure, including cardiomegaly, increased hilar markings and minimal blunting of bilateral costophrenic angle. Repeated echocardiogram revealed a large-sized apical, septal, anteroseptal, anterior and inferior wall motion abnormality with global hypokinesia. There was impaired left ventricular systolic function with ejection fraction of 35% and dilated left ventricle with size of 6.2cm as shown in Fig. 1. Transabdominal ultrasound examination showed parameters of 14-15 weeks viable fetus. Her diagnosis was revised to acute heart failure secondary to severe hypertension with peripartum cardiomyopathy class IV.

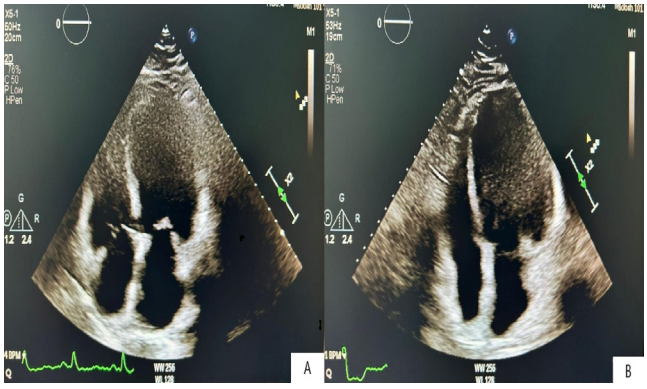

Fig. 1: Comparison of patient's echocardiogram between December 2022 (A) and March 2023 (B).

She was admitted for blood pressure optimization, with a strict input and output charting, fluid restriction of 1 litre per day and regular IV furosemide 40 mg stat followed by BD dosing. A family conference was convened to discuss the termination of a high-risk pregnancy and the possibility of adoption. After thorough discussions with a cardiologist and obstetricians, the couple decided to proceed with terminating the pregnancy for her health and well-being. The termination was carried out with mechanical induction. After termination of pregnancy, the patient experienced no immediate complications and was discharged with T. bisoprolol 1.25mg OD, T. valsartan 40 mg OD, and T. spironolactone 12.5mg OD, as well as scheduled follow-up appointments.

DISCUSSION

The prognosis for women with peripartum cardiomyopathy is uncertain. Even after recovery, there is a high risk of recurrence, and pregnancy may lead to significant deterioration (3). In Malaysia, termination of pregnancy (TOP) is permitted to save a woman's life and preserve her health. The National Fatwa Council allows TOP up to 120 days of gestation in cases where the mother's life is in danger or there's fetal impairment. According to the Guidelines on TOP for Hospitals in Ministry of Health, TOP should be performed in the presence of a gynaecologist, with two doctors concurring on the necessity of the procedure. In this case, the procedure was carried out in line with proper procedures and legislation while also respecting her religious beliefs.

The couple has a very high expectancy to get pregnant again after her condition improves. Her condition was further explained in terms of the prognosis and the risk of recurrence in subsequent pregnancy. The discussion was made to introduce them with the available option such as child adoption, which is a legal and commonly practiced method of having children in Malaysia. Their primary concern was the perception of being unable to conceive and pass on their own inheritance.

For the purpose of discussion, if the couple chooses to have biological inheritance without compromising the patient's health status, is surrogacy one of the options? According to the Handbook of Gestational Surrogacy, surrogation involves removing eggs surgically from a woman's ovaries, combining them with husband or partner's sperm in the laboratory, and then donating them to another woman. The surrogate mother will only be responsible to carry the fetus in her womb until delivery, and later will be free from any responsibilities after handing the child back to the assigned family. There are extensive debates regarding the regulations of surrogacy in Malaysia, which are bounded in terms of medical ethical issues, law and legal status of the newborn and are strongly related to the Islamic point of view. In Malaysia with multicultural and different religious beliefs, the law of reproductive surrogacy depends on whether the participating parties are Muslim or non-muslim. Taking into account that the patient is a Muslim, it is clearly forbidden by The National Fatwa Committee which states that "surrogacy was forbidden in Islams, even if the sperm and ovum were taken from a legally married couple. This was so because it caused genetic confusion to the unborn baby" (4). Thus, based on the religion law itself has clearly drawn a line that

surrogacy in this case is not an option as it will bring more difficulties and bad accusations to them in the future.

In another point of view, adoption is another way for a couple to have a child and it has become an accepted norm by people all over the world. Malaysia currently practises the dual legal system under Civil Law and Islamic Law. The context of child adoption falls under personal law of the people in Malaysia, in which there are two kinds of adoption under two statutes governing adoption in Malaysia, namely Adoption Act 1952 (Act 257) (for non-Muslims) and Adoption Registration Act 1952 (Act 253) (De Facto) for Muslims and non-Muslims. For this patient, the Act can be used to register an adopted child via De Facto, "where the child is under the custody, raised, supported and educated by a parent or spouses jointly, as a child or as their own child for a period not less than two years continuously before the registration of adoption is made" (5). This process of adoption is beneficial to both parties as a means of child protection and is widely acceptable in terms of ethical and religious point of view. Furthermore, the adopted child later shall have the same legal standing as the biological children of the adoptive parents. At the same time, the act of taking custody of a child who is not biologically related to the person shall not alter the adopted child's biological status.

CONCLUSION

This case highlights a woman with peripartum cardiomyopathy faced significant risks during pregnancy, including high mortality. Therefore, it is crucial to consider the couples' psychosocial history, motivation, beliefs, and attitudes toward family planning to establish realistic expectations. Adoption can be a viable option, with guidance starting at the primary care level. Engaging patients in decision-making enhances understanding and adherence, prioritizing their health and well-being.

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