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Case Report

Pregnancy outcome in patient with rare autoimmune disease with complex cardiac ailment

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ABSTRACT

Takayasu arteritis (TA), a rare chronic granulomatous vasculitis of the aorta and its major branches, poses significant challenges in pregnancy, including an increased risk of hypertension, pre-eclampsia, intrauterine growth restriction (IUGR), and maternal cardiac decompensation. We present the case of a 22-year-old, G2A1 woman at 38 weeks and 3 days of gestation, with a known history of TA and a blockade of the left main coronary artery requiring stent placement. Her pregnancy was managed by a multidisciplinary team. Antihypertensive therapy (Metoprolol and Torsemide) was carefully titrated, and Ecospirin was discontinued prior to delivery. An elective lower segment caesarean section (LSCS) under invasive haemodynamic monitoring was performed at 38 weeks, resulting in the delivery of a healthy infant and favourable maternal outcome. This case underscores that with meticulous, multidisciplinary antenatal care, strategic medication management, and timed delivery, successful pregnancy outcomes are achievable in women with TA, even with a history of severe coronary involvement. It aligns with literature advocating for individualised care plans in this high-risk obstetric population.

Keywords: Takayasu arteritis**,** High-risk obstetrics, Coronary artery disease, Vasculitis

INTRODUCTION

Takayasu arteritis (TA) is a rare large-vessel vasculitis predominantly affecting women of childbearing age.[1] Pregnancy in women with TA is associated with elevated maternal and foetal risks, including gestational hypertension (40-60%), preeclampsia (15-35%), IUGR (15-30%), and preterm birth.[2,3] The physiological changes of pregnancy, such as increased blood volume and cardiac output, can exacerbate hypertension and strain the cardiovascular system, making management complex.[4]

The presence of coronary artery involvement, as in our case, signifies severe disease and further heightens the risk profile. We report a case of successful pregnancy outcome in a patient with TA and a history of coronary stent placement, and discuss its management in the context of current literature.

CASE REPORT

A 22-year-old woman, gravida 2, para 0, abortion 1, at 38 weeks and 3 days gestation, was referred to our tertiary care centre for elective delivery. She had a diagnosis of TA, complicated by a blockade of the left main coronary artery three years prior.

Her initial presentation at 19 years of age involved episodes of non-radiating chest pain and syncopal attacks. Coronary angiography confirmed the diagnosis, and a stent was deployed. The stent required replacement in November 2019 due to displacement. Her medical

treatment included Tab. MetXL (Metoprolol) 50mg BD, Tab. Dytor (Torsemide) 10 mg OD, and Tab. Ecospirin (Aspirin) 75 mg OD. Her obstetric history was significant for one first-trimester medical termination of pregnancy (MTP) in 2020, undertaken in view of her cardiac disease.

During the present, spontaneously conceived pregnancy, her medication was carefully modified. Metoprolol was reduced to 12.5 mg BD and Torsemide to 5mg OD to account for physiological changes in pregnancy and to minimise potential foetal effects such as bradycardia and reduced placental perfusion.[5] Ecospirin was stopped five days prior to the planned LSCS to reduce the risk of perioperative bleeding. Her antenatal course was closely monitored with serial growth scans and Doppler studies, which showed appropriate foetal growth and normal umbilical artery waveforms.

On admission, general physical examination revealed a moderately built woman in fair general condition. Her vital signs were stable: BP 108/77 mmHg, pulse rate 101/min (regular but feeble), and RR 16/min. No radio femoral delay was documented. Systemic examination was unremarkable; cardiovascular examination revealed a palpable apex beat, with S1 and S2 heard clearly and no added sounds or murmurs. The uterus was term-sized, with a cephalic presentation and a reassuring foetal heart rate.

A multidisciplinary team comprising obstetricians, cardiologists, cardiothoracic surgeons, and anaesthetists decided on an elective LSCS at 38+3 weeks. This timing is supported by guidelines to reduce the risk of spontaneous labour and its associated haemodynamic stress while ensuring foetal maturity.[2-5] The procedure was conducted under invasive arterial blood pressure monitoring to ensure strict haemodynamic control during the dynamic changes of spinal anaesthesia and delivery. A live male infant weighing 2850g with Apgar scores of 8 and 9 at 1 and 5 minutes, respectively, was delivered. The postpartum period was uneventful, and the patient was discharged in a stable condition on her pre-pregnancy antihypertensive regimen.

DISCUSSION

The management of TA in pregnancy requires a delicate balance between controlling maternal disease activity and optimising foetal well-being. Our case illustrates several key principles endorsed by current literature.

First, the successful outcome highlights the paramount importance of a multidisciplinary team approach. Regular input from cardiology, obstetrics, and anaesthesia is crucial for pre-conception counselling, antenatal monitoring, and peripartum planning.[1-4]

Second, the pharmacological management was carefully tailored. The use of beta-blockers like Metoprolol is a cornerstone for hypertension and tachycardia control in TA during pregnancy.[5] The dose reduction in our patient was a precautionary measure against potential fetal bradycardia and IUGR, a known association with beta-blockers, though the benefits of maternal stability often outweigh the risks.[2] The cessation of low-dose aspirin before delivery is a standard practice to mitigate the risk of neuraxial anaesthesia complications and postpartum haemorrhage, aligning with anaesthetic guidelines. Notably, our patient did not require corticosteroids or immunosuppressants like azathioprine during pregnancy, as her disease was quiescent. However, these agents are recommended in cases of active vasculitis to prevent disease progression.[1-4]

Third, the decision on the mode and timing of delivery is critical. For women with significant cardiac disease or vascular involvement, an elective LSCS with invasive monitoring is often preferred. This allows for a controlled environment, avoiding the profound haemodynamic fluctuations of labour and vaginal delivery.[2-5] The planned delivery at 38+3 weeks, as in our case, is consistent with recommendations from large cohort studies to prevent the onset of spontaneous labour and to minimise the risk of stillbirth, which is slightly elevated in these high-risk pregnancies.[3]

Our patient's history of coronary artery disease with stenting represents a severe form of TA. This underscores the need for aggressive risk stratification. While studies by He et al and Partalidou et al report generally good maternal and neonatal outcomes with modern management, they consistently identify pre-existing hypertension and arterial stenosis as significant risk factors for adverse obstetric events.[2,3] Our patient's favourable outcome, despite her severe background, demonstrates that meticulous, individualised care can mitigate these risks.

CONCLUSION

This case adds to the growing body of evidence that pregnancies complicated by TA, even with significant coronary involvement, can be successfully managed with excellent outcomes. The cornerstones of management are a proactive, multidisciplinary team, careful titration of medication, and a planned delivery strategy with intensive peripartum monitoring. This approach, as demonstrated here and supported by the literature, provides a robust framework for managing these challenging high-risk pregnancies.

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