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## Case Report

# Anaesthetic management of a 36 week primigravida posted for LSCS

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### ABSTRACT

Takayasu's arteritis (TA) is a chronic progressive pan-endarteritis of mainly aorta and its main branches. It affects predominantly younger women. Pregnancy doesn't affect the inflammatory condition much but it increases the risk of exacerbation of hypertension in women with pre existing hypertension before pregnancy. Because of the diversity and variable degrees of organ dysfunction, anaesthesia for these patients is challenging and not standardized. We present the successful anesthetic management of a 26-year-old woman having TA posted for emergency cesarean section by using spinal anaesthesia.

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## 1. Introduction

Takayasu arteritis is a idiopathic vasculitis involving mainly the aorta and its branches. It was first recognized by a Japanese ophthalmologist, Dr Mikoto Takayasu, in 1908 who reported ocular changes in a 21-year-old Japanese woman. Takayasu arteritis commonly affects young women of Asian or oriental descent during childbearing age.<sup>1,2</sup> The major implications during management of these patients with pregnancy include: Uncontrolled hypertension and end organ dysfunction due to stenosis of major blood vessels, Difficulty in monitoring blood pressure in the upper limbs, necessitating lower limb NIBP, with periodic checking the dorsalis pedis arterial pulse bilaterally, Cushingoid features due to long term steroid intake, requiring perioperative supplementation, Possibility of patient being on antiplatelet drugs or anticoagulants, requiring precautions prior to regional anaesthesia and surgery.<sup>3</sup>

## 2. Case Report

A 26-year-old primigravida diagnosed with TA type III presented to the obstetric clinic for safe confinement. She also had renovascular hypertension. She was on prednisolone 4mg daily, aspirin 75mg daily, nifedipine 10mg daily. Pre anaesthetic examination revealed the patient weighed 75kg and was 160cm tall, heart rate of 85/min, blood pressure in the left arm was 126/84mm of Hg, right arm was 118/80 mm of hg, left leg 122/76 mm hg, right leg 130/78mm hg. She did not have any neurological deficit or muscle atrophy. All the systemic examination was unremarkable. The airway examination was found to be Mallampatti class 2 and spine examination was unremarkable. All the blood investigation and Echowere within normal limits. Angiography revealed 25% stenosis of bilateral subclavian artery and 15% stenosis of left renal artery.

She was taken up for emergency caesarian section due to fetal distress. A 18G peripheral IV line was secured in dorsum left arm and hydrocortisone 50 mg was administered IV. The patient was preloaded with 500 ml of Ringers Lactate. Ranitidine 50mg and Metoclopramide

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10mg were given IV. Cefoperazone sulbactam 1.5gm was given after proper skin testing in 100ml Normal saline. Standard ASA monitoring was attached including pulse oximeter, 5lead ECG, NIBP in Right arm. Following strict aseptic conditions a 26G quinkes needle was introduced in the intrathecal space through the L3-L4 intervertebral space via midline approach in sitting position and 2ml of 0.5% hyperbaric bupivacaine with 25mcg fentanyl was given. She was given 15units of oxytocin after delivery of a live healthy baby. The intra operative hemodynamics were all normal. The duration of surgery was 50mins and there was 400ml blood loss. She was shifted to the PACU after an uneventful surgery and afterwards shifted to the ward.

### 3. Discussion

TA is a form of granulomatous pan-endarteritis resulting in occlusion and thrombosis of the aorta and pulmonary arteries.<sup>4</sup> It results in narrowing of the arterial lumen, with a consequent distal ischemia. There is often loss of pulse distal to the site of the lesion. Thus it is also known as “pulseless disease.”

Women account for 80%-90% of TA cases and the age of onset is usually between 10 and 40 years.<sup>5</sup> The disease has a worldwide distribution, with the greatest prevalence being in Asia. Furthermore, Japan reported an estimated 150 new cases of TA each year. Its aetiology remains primarily idiopathic.<sup>6</sup> Autoimmunity, sex hormones, and genetic (predisposition of the human leukocyte antigen, HLA BW52) factors have often been hypothesized as plausible factors causing it.

Two types of TA have been acknowledged. Type I is disease embroiling aortic arch and its branches. Type II is lesions constrained to descending thoracic aorta and abdominal aorta. Type III (patients with characteristics of types I and II), type IV (involvement of pulmonary artery), and type V (combined features of types IIb and IV).<sup>7</sup> The above-described patient was labelled as type II TA. The disease can also be classified into stages as per the presence of major complications such as hypertension, retinopathy, aneurysms, and aortic insufficiency stage I (no complications observed), stage IIa is when patients are having one of these above mentioned complications, stage IIb is when patients are having only one of these complications, but in the severe form, and stage III is when more than one complication is present.<sup>8</sup>

During the pre-operative visit, patients should be evaluated for clinical features suggestive of carotid involvement, like dizziness and syncope on head extension and check for carotid bruit. We should always keep the head in neutral position to avoid hyperextension of the head while doing laryngoscopy because it can lead to post-operative visual disturbances, vertigo, hemiparesis, and seizures. These patients mostly have lower blood pressure in the upper limb when compared with the lower limb. So we

advise to record blood pressure from both the upper and the lower limbs during the pre-operative visit and also during the intraoperative period.<sup>9</sup> The lower limb can also be used for pulse oximetry.

The choice of anaesthetic technique is not standardized both general and regional anaesthesia can be used. Neuraxial anaesthesia as compared to general anaesthesia offers some advantages here such as avoiding difficult airway management, aspiration and controlling hypertension at different stages of the surgery. Neuraxial anaesthesia allow maintains normal consciousness of the patient and allows early mother to child contact. The sympathetic blockade associated with neuraxial anaesthesia however can lead to episodes of intraoperative hypotension which can be managed by adequate pre loading the patient with iv crystalloids and iv phenylephrine intra operatively.<sup>10</sup> Both spinal and epidural anaesthesia can be used in management of these patients with spinal anaesthesia offering a faster onset of anaesthetic action.

### 4. Conclusion

We successfully managed a case of Takayasu's arteritis posted for caesarean section with spinal anaesthesia.

### 5. Conflict of Interest

None.

### 6. Source of Funding

None.


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