

## Successful Spinal Anaesthesia in a Patient of Takayasu's Arteritis for Emergency Lower Segment Caserian Section

Yogesh Rathod<sup>1</sup>, Suyog Bagade<sup>1</sup>, Supriya D'Souza<sup>1</sup>, Adarsh Kulkarni<sup>1</sup>, Sagar Yesale<sup>1</sup>, Sunil Chapne<sup>2</sup>, Rachana Chhabria<sup>2</sup>.

<sup>1</sup>Student, MD Anaesthesia 2nd year, Department of Anaesthesiology and Critical Care, Seth G S Medical College & KEM Hospital, Mumbai, India.

<sup>2</sup>Assistant Professor, Department of Anaesthesiology and Critical Care, Seth G S Medical College & KEM Hospital, Mumbai, India.

**Abstract:** Takayasu's arteritis (TA) is a rare, chronic progressive pan-endarteritis involving the aorta and its main branches. Anaesthesia for patients with TA is complicated by their severe uncontrolled hypertension, end-organ dysfunction. We had a 26 year-old, 94 kg woman married since 6 years with G2 P1IUFD1, with 36.5 weeks of amenorrhoea (by date) and known case of Takayasu's Arteritis with non-functioning left kidney and chronic hypertension admitted for safe confinement. Patient was having pain in abdomen when presented to operation theatre for emergency lower segment caesarean section in view of non-progression of labour. A spinal anaesthesia was given to this patient with 23G Quincke's spinal needle. A spinal level of T6 was achieved and patient got delivered successfully. She was hemodynamically stable throughout the procedure.

**Keywords:** Takayasu's arteritis, spinal anaesthesia

### I. Introduction

Takayasu described a rare illness characterized by occlusion of the principal arteries arising from the aortic arch. This disease is also referred to by many other names, including pulseless disease, aortic arch syndrome, young female arteritis, idiopathic aortitis, reversed coarctation, and Martorell syndrome. It affects females in over 85% of cases. The major clinical finding is loss of palpable pulses in the upper limbs and neck. The unsuspected ischemia in vital regional vascular beds may be associated with high anesthetic risks for these patients. This case report discusses anaesthetic management in Takayasu's Arteritis with pregnancy.

### II. Case Report

We had a 26 year-old, 94 kg woman married since 6 years with G2 P1IUFD1, with 36.5 weeks of amenorrhea (by date) and known case of Takayasu's Arteritis with non-functioning left kidney and chronic hypertension who was admitted for safe confinement. Patient is a known case of hypertension since 1 year, was started on Tablet Amlodipine 5mg OD and shifted to Tablet Aldomet 250mg TDS at 31st week of gestation. Patient is also a diagnosed case of Takayasu's Arteritis 1 year ago. CT Angiogram is suggestive of multiple saccular aneurysms in descending thoracic and abdominal aorta with intimal thickening of aortic arch. DTPA scan is suggestive of non-functioning left kidney. 2D ECHO is suggestive of concentric left ventricular hypertrophy with mild MR, mild AR and thin rim of pericardial effusion. Patient was started on Tablet Warfarin 2.5mg OD HS and shifted to Tablet Aspirin 75mg OD in this pregnancy after first trimester when she visited to hospital. Patient is also started on Tablet Prednisolone 5mg OD in view of raised CRP levels. Patient is positive for ANA antibodies.

**1. Obstetric History:** G1-IUFD at 8 months, 4 years back Preterm vaginal delivery

G2P1IUFD1



G2- Present pregnancy

**2. On Examination:** Patient was conscious and oriented to time place and person.  
Pulse- 102/min, BP- Left Upper limb 110/70mm of Hg and Right Upper limb 168/102mm of Hg

#### 3. Systemic Examination:

- 3.1 Cardiovascular system: S1S2 Heard, no any murmur,
- 3.2 Respiratory System: Air entry bilaterally equal and clear,
- 3.3 Spine Examination: No any obvious deformity.

4. Airway Examination :

Mouth opening : >3 fingers,  
MPC II,  
neck movements : Adequate,  
Thyro-mental distance : ~6 cm.

5. Investigations

Hb-10.5 gm%,  
TLC-9800/cmm,  
platelets 2.4 lacs/cmm  
with PT-12.5/15 seconds and INR-1.2.  
Thyroid function test- TSH-1.35mcgIU/ml.

6. Special Investigations :

**6.1 2D ECHO:** Ejection fraction 60%, concentric left ventricular hypertrophy, thin rim of pericardial effusion, 3mm around heart, no e/o co-arcuation of aorta, mild MR, mild AR, no AS, trivial TR, no significant PH, Good LV systolic function.

**6.2 DTPA SCAN:** Non-functioning left kidney, Hydronephrotic, non-obstructed Right kidney with adequate cortical function.

**6.3 CT Angiogram:** Diffuse intimo-medial thickening with calcification in aorta, mild intimal thickening at arch of aorta, origin of left subclavian artery. Multiple saccular aneurysms in descending thoracic and abdominal aorta, one saccular aneurysm noted at origin of left renal artery and is partially thrombosed. Resultant small shrunken left kidney. Etiology of Takayasu aorto-arteritis can be considered.

**FINDINGS**

Left Kidney- Left kidney is not visualized throughout the study and even on delayed images.

Right Kidney- Right kidney appears to be normal in size, shape and position. Shows adequate uptake of radiotracer. There is pooling of radiotracer in the pelvicalyceal system that fills in with time but clears post lasix. Renogram curve shows delayed whole kidney peaking time but transit time is achieved post lasix.

**QUANTITATIVE DATA**

	Left Kidney	Right Kidney
Peaking Time	-----	8 min
Transit Time	-----	8.7 min Post lasix
GFR	-----	78.6 ml/min
% Uptake	-----	97.5 %

**IMPRESSION**

Non-visualized, non-functioning left kidney.  
Hydronephrotic, non-obstructed right kidney with adequate cortical function.

**Fig.1 DTPA SCAN.**

**IMPRESSION:-**

Diffuse intimo medial thickening with calcification noted in aorta.

Mild intimal thickening of arch of aorta origin of left subclavian and visualized portion of bilateral common carotid arteries.

Multiple saccular aneurysm noted in visualized part of descending thoracic and abdominal aorta. One of the saccular aneurysms is noted involving the origin of left renal artery and is partially thrombosed. Resultant small shrunken left kidney.

Focal partial moderate narrowing of infrarenal abdominal aorta.

In this young female patient underlying etiology of Takayasu aorto arteritis or connective tissue disease can be considered.

Suggested CT Thoracic aortic angiogram including neck vessels and HRCT Thorax for further evaluation.

**Fig.2 CT Angiogram reports**

### **III. Anaesthetic Management**

A written informed consent for anaesthesia was taken including explanation regarding spinal anaesthesia. Patient was taken inside OT and monitors like ECG, pulse –oximetry, NIBP attached. Then 18 G vein was secured on both the upper limbs. Inj. Ondansetron 0.1mg/kg given i.v. along with Inj. Ranitidine 50mg i.v. slowly. FHR (Fetal Heart Rate) on operation table was 132/min. Co-loading with crystalloids (Ringers Lactate) started along with preparation for spinal anaesthesia. Sitting position given. Under all aseptic Precautions painting and draping done on the back and sub-arachnoid block given with 23G Quincke's Spinal Needle by Median approach. Inj. Bupivacaine Heavy 0.5% 1.8 cc was given for the subarachnoid block. Pin-prick test performed to assess the sensory blockade level, which was T6 after 3 mins of giving blockade.

#### **Intra-operative and Post-operative:**

An emergency lower segment caesarean section performed to deliver a baby. Incision taken (for caesarean section) and baby got delivered within next 11mins. Baby cried immediately after birth. Inj. Pitocin (20U in 500ml of Ringer Lactate) started immediately after the birth of the baby. Patient remained hemodynamically stable throughout the procedure.

Blood loss: 600 ml,

Urine output: 250ml,

I.V. Fluids: 3 pint RL (1500ml)

Post-op spinal level was T12.

Patient was conscious, oriented and vitally stable.

### **IV. Discussion**

There were few patients of Takayasu's arteritis who presented to the casualty with amenorrhoea and pain in abdomen. An emergency lower segment caesarean section was indicated in them. They were successfully managed with a subarachnoid block for emergency lower segment caesarean section. Our patient was a known case of Takayasu's Arteritis with left non-functioning kidney. She was also having multiple saccular aneurysms in descending thoracic aorta. We managed our case with a spinal anaesthesia and adequate volume co-loading to achieve a spinal level of T6.

### **References**

- [1]. Dutta B, Pandey R, Darlong V, Garg R. Low-dose spinal anaesthesia for a parturient with Takayasu's arteritis undergoing emergency caesarean section. *Singapore Med J.* 2010 Jun;51(6):e111-3. PubMed PMID: 20658099.
- [2]. Gautam S1, Srivastava VK, Kumar S, Wahal R Successful low-dose spinal anaesthesia for lower segment caesarean section in a patient with Takayasu arteritis *BMJ Case Rep.* 2013 May 23;2013. pii: bcr2013010107. doi: 10.1136/bcr-2013-010107.