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Anaesthesia Management in a Case of Takayasu Arteritis Posted For Elective Caesarean Section

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ABSTRACT

INTRODUCTION- Takayasu arteritis is a rare, idiopathic, chronic inflammatory disease which causes narrowing, occlusion or aneurysms of blood vessels affecting large arteries such as the aorta and its branches.

CASE REPORT – We present a case of 26 years old female G2P2L1 with k/c/o aortoarteritis diagnosed 3 years back now posted for elective LSCS. USG Colour Doppler was showing aortoarteritis, B/L Renal artery stenosis with involvement of abdominal aorta below origin of superior mesenteric artery. 2D Echocardiography showed 45% Ejection Fraction with Moderate Aortic Regurgitation. She was taking medication like tab Nifedepine 20mg BD, Tab Labetalol 200mg TDS, Injection Furosemide 20mg IV OD. Her upper limb BP was 180/90 mmHg and lower limb BP was 100/60 mmHg with a gradient of 80 mmHg. She successfully underwent Elective lower section caesarean section under General anaesthesia. Intraoperative hemodynamic were monitored using two separate monitors for upper limb and lower limb, vitals were maintained stable.

RESULTS – At the end of surgery patient was extubated on table and shifted to ICU for observation.

CONCLUSION-Successful management of high risk obstetric cardiac case requires multidisciplinary team approach, pre-op optimisation, intra-op hemodynamic monitoring and post op ICU care.

I. INTRODUCTION: -

Takayasu arteritis is a rare, idiopathic, chronic inflammatory disease which causes narrowing, occlusion or aneurysms of blood vessels affecting large arteries such as the aorta and its branches. Despite being commonly present all over the world, it is more frequently seen in oriental women. The peak incidence is in the second and third decades, and it is eight times more common in women than in males. Although the origin is uncertain, it might be autoimmune in nature.

26 year G2P2L1, homemaker, with gestational age of 37 week 4 days, came to OPD for safe confinement. On 2nd trimester of pregnancy she had complaint of mild epigastric pain and claudication in bilateral lower limbs. She was a Diagnosed case of Aortoarteritis in 1st Pregnancy. On examination she had a BMI of 24.5. Pulse rate on right radial artery was 88/min, regular, normovolumic on Left radial was 80/ min , regular , feeble and on femoral was 78/min , regular , feeble. Radio-femoral delay was present. Blood pressure on all 4 limbs were taken which was variable. Right upper limb: 170/60 mm Hg. Left upper limb: 160/70 mm Hg, Right lower limb: 114/80 mm Hg, Left lower limb: 100/70 mm Hg. Rest of the systemic examination – WNL.

Investigations :

2D Echo:- EF -45% Global LV hypokinesia turbulance noted in abdominal aorta at the level of diaphragm.

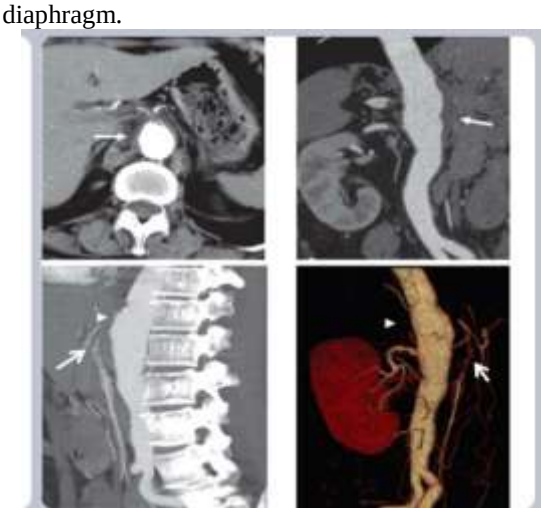

Photo showing stenosis of abdominal segment of aorta with B/L renal artery stenosis

USG Renal Doppler:- Showing stenosis of Abdominal segment of Aorta below the level of origin of Superior Mesentric Artery with B/L renal artery stenosis.

Rheumatology opinion was taken and was started on T. Prednisone 5mg OD. Cardiology opinion was taken and was advised to be done under GA and avoid spinal anaesthesia.

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Patient was posted for elective LSCS. Procedure explained on the day of surgey Written informed high risk consent was taken. ICCU Standby was asked.

Std ASA monitors - Pulseoximetre, ECG , NIBP cuff on Right arm and on right calf was attached. Anti-aspiration prophylaxis- Inj Ondensetron, Inj Metoclopramide, Inj Pantoprazole was administered. Position given left Uterine displacement.

Rapid sequence Induction was done using Inj etomidate, inj scoline, inj atracurium with endotracheal tube using VDL. Central line was secured via IJV. Within 4 mins baby of 2.4kg was out with APGAR 9/10. BP maintained within 20% of baseline value.

Post delivery of the baby- Inj. Oxytocin 10 IU infusion was given slowly without affecting arterial pressure.

For Post Operative Analgesia Inj. PCM and Local infiltration at incision site was given. After NMB reversal. Extubation was done. Inj Loxicard was also given to prevent stress response.

II. DISCUSSION:

Takayasu arteritis pose multiple challenges to an anaesthesiologist. Increase in blood volume and cardiac output during pregnancy can worsen the cardiovascular complication associated with disease. (Increased likelihood of cardiac decompensation) Hypoxia , acidemia, hypercapnia should be avoided which increases Pulmonary hypertension.

Either general or regional anaesthesia can be used depending on the risk benefit ratio. Use of epidural anaesthesia is an acceptable method as hypotension is not commonly a problem with it (if given in graded doses). Allows for best monitoring of Cerebral function via neurological status of awake patient. Provide good pain relief after surgery , reducing risk of further increase in arterial pressure. While General anaesthesia Involves intubation, extubation and inadequate depth may result in fluctuation in BP and may precipitate cerebral hemorrhage, rupture of aneurysm and cardiac dysfunction. EEG studies, Transcranial Doppler can be used to monitor cerebral perfusion. It is mandatory in patients where there is gradient of more than 30mmHg in upper and lower limbs. Allows for invasive monitoring if required in severe cases.

III. CONCLUSION:

Successful management of high risk obstetric cardiac case requires multidisciplinary team approach, pre-op optimisation, intra-op hemodynamic monitoring and post op ICU care.

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