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ANAESTHESIA MANAGEMENT IN A CASE OF ATRIAL SEPTAL DEFECT WITH SEVERE PULMONARY ARTERY HYPERTENSION FOR LEFT SIDED 5 TH METACARPAL FRACTURE - CASE REPORT

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ABSTRACT Atrial septal defect is the most common acyanotic congenital cardiac anomaly in the adults .Major challenges in the management of large ASD with severe pulmonary hypertension includes hypoxemia, hypercarbia, hypothermia leading to reversal of shunt (Eisenmenger syndrome), fatal arrhythmias and congestive heart failure.Hence multidisciplinary team approach should be considered for overall good patient care and treatment.

KEYWORDS : large ASD , Severe PAH , Anaesthesia management, Axillary block

INTRODUCTION-

Atrial septal defect is one of the most common congenital anomalies in adults . It is characterised by defect in the intratrial septum that allows pulmonary venous return to pass from left to right atrium , resulting in right atrial and right ventricular dilatation the extent of which depends on size of shunt . Moderate to severe Pulmonary hypertension in ASD is seen in 9 -22 % cases .Overall , Pulmonary artery hypertension associated with an Atrial septal defect is usually associated with a high morbidity and mortality; patients should be closely monitored in such cases during pre operative , intra operative and also post operative .

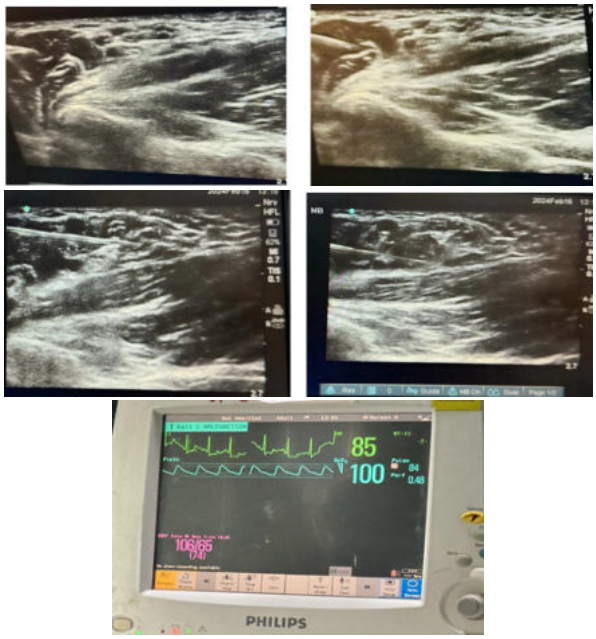
Case Report -

23 year old female patient presented to casualty with complaints of pain and swelling of left hand 5 th finger , she has given alleged history of slip and fall 2 days prior at her home .She did not sustain any other injuries and also she had no complaints of loss of consciousness, nausea , vomiting , blurring of vision , ENT bleed, Headache. After evaluation by orthopaedician ,she was diagnosed with 5 th metacarpal fracture . She is also a known case of large secundum ASD with severe PAH . Patient 2 years earlier was having complaints of breathlessness and also poor effort tolerance and was referred to a physician, further investigations and tests done revealed ASD with Pulmonary hypertension and she is on medication . Currently she is on Tab Ambrisentan 5 mg and Tab Todalafil 10 mg BD . She also had history of pulmonary tuberculosis in childhood at 2 years of age and she took Anti tuberculosis treatment for 6 months . Currently she is posted for Closed reduction with k wiring for left hand 5 th metacarpal fracture . On auscultation systolic murmur was heard . Electrocardiography done showed sinus rhythm with T wave inversion in lead V2, V3 and V5 .2D Echo was also done which revealed ejection fraction of 60% , Ostium secundum ASD with 25 mm defect and left to right shunt ; mitral regurgitation and tricuspid regurgitation also present with PASP of 63 mmhg , dilated Right atrium and right ventricle and D shaped left ventricle , IVC - 1.3 cm partially collapsing. Pre anaesthesia evaluation was done and cardiologist opinion was also taken prior to surgery . She weighs around 45 kgs . Cardiologist had advised to prevent hypotension episode during intra operative period and fitness was given under regional anaesthesia for surgery . Rest all routine investigations were within normal limits and PT/INR – 18/0.99 is also within normal limits .

Surgery - Patient underwent closed reduction with k wiring for left sided 5 th metacarpal fracture under Axillary block .

Anaesthesia Management:

- High risk consent in view of Atrial septal defect with severe pulmonary artery hypertension taken and also stand by ICU bed was reserved .
- Informed anaesthesia consent , adequate NBM were confirmed
- Patient was explained about Axillary block
- Infective endocarditis prophylaxis was also given in preoperative period with Injection Penicillin as advised by cardiologist
- Patient shifted to operative room and all standard monitors attached and baseline vitals were noted
- After proper positioning of the patient , ultrasound guided Axillary block given with 27 cc of local anaesthetic mixture of Injection Bupivacaine 0.5% 13cc + injection lignocaine 2% 13cc + Injection dexamethasone 4 mg and 3cc of normal saline under aseptic precautions
- Oxygen was also provided with Hudson mask with 5 litres of oxygen
- After adequate sensory and motor blockade surgery was started
- All vitals were monitored, fluid input was also restricted
- Intra operative blood loss was also minimal
- Duration of surgery was 2 hrs
- Intra operative period was uneventful
- She was shifted to recovery and monitored for 4 hours before shifting to ward.



Post Operative Period :

The duration of Axillary blockade was 12 hours

Return of all sensory and motor activity confirmed . Post operatively Injection paracetamol 1 gm and injection Tramadol were given for analgesia . Postoperative period was uneventful and she was discharged after 8 days of surgery

CONCLUSION:

With good preoperative assessment, preoperative preparation and providing good intraoperative and postoperative analgesia . Non cardiac surgery for a cardiac patient can be easily performed under regional anaesthesia in patients of large Atrial septal defect with severe pulmonary hypertension with adequate preoperative evaluation and preparations and multidisciplinary team approach .

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