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ANAESTHETIC MANAGEMENT OF OPEN CHOLECYSTECTOMY IN A PATIENT WITH PULMONARY STENOSIS AND TRICUSPID REGURGITATION – A CASE REPORT.

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ABSTRACT

This case report is about anaesthetic management of a 21 yr old female patient(pt) who was a known case of pulmonary stenosis and tricuspid regurgitation posted for open cholecystectomy. The patient had congenital pulmonary stenosis, which was operated at the age of 10 yrs. But the patient developed restenosis and tricuspid regurgitation later on. This case was managed successfully with general anaesthesia and thoracic epidural anaesthesia without any complications.

Key words: **Cholecystectomy, pulmonary stenosis, tricuspid regurgitation, thoracic epidural anaesthesia.**

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INTRODUCTION

Pulmonary stenosis is a rare cardiac valvular disorder. Incidence is 8 – 12 % of all congenital heart diseases. Here there is obstruction to Right (Rt) ventricular outflow resulting in Rt sided pressure and volume overload. In the earlier age groups where the foramen ovale is not closed, blood flows to left atrium through it leading to mixing of both oxygenated and deoxygenated blood resulting in cyanosis. But at later stage, when foramen ovale gets closed, the pressure and volume overload in right side of heart lead to right ventricular failure. The dilated Rt ventricle leads to tricuspid regurgitation. Anaesthetic management in these patients is associated with increased perioperative cardiac complications because of associated pulmonary hypertension. Optimal anaesthetic management should be based on patient's present cardiac reserve and type of surgical procedure to be performed.

CASE REPORT

This case is a 21yr old female patient who presented with 10 months history of on and off right upper quadrant abdominal pain associated with fever. She also had history of productive cough for one week. Patient was a known case of congenital pulmonary stenosis for which she underwent pulmonary valvotomy with annuloplasty at the age of 10 yr following which, her symptoms were releived to some extent but she often used to have recurrent respiratory tract infections and her effort tolerance was decreased (NYHA class II). She had no other co-morbid illness. She was diagnosed to have chronic cholecystitis with cholelithiasis and was planned for open cholecystectomy. The pt was short statured with height of 145cm and weight was 39kg. Pulse rate of 80/ min, BP was 110/70 mmHg and respiratory rate was 15/min. On auscultation of chest, she had bilateral wheeze and basal crepts. S1 and S2 were heard. An ejection systolic murmur in pulmonary area and a pansystolic murmur in tricuspid area were present. Her routine blood Investigations were within normal limit. ECG was showing tall T waves in lead V_{2-3} and T inversions in lead V_{2-5}. Echocardiography showed residual Pulmonary stenosis with moderate Tricuspid regurgitation and mild pulmonary arterial hypertension. Right atrium and ventricle were dilated, EF was 55%. Pressure gradiant across pulmonary valve was 25mmHG. Chest X ray was showing increased bronchovascular markings. As the pt had respiratory tract infections, she was treated with antibiotics and bronchodilators for one wk and then accepted for surgery under ASA III. Pt was adequately premedicated night before and morning of surgery. A written informed consent was obtained after explaining the risk involved with surgery. Infective endocarditis prophylaxis were given according to our institutional protocol on the day of surgery. Pt was shifted to operation theater and two wide bore IV cannulas were started. All basic monitors(ECG, NIBP, Pulse oxymetry and capnography) were connected and base line parameters were recorded. In Operation room , she was premedicated again with inj. midazolam and fentanyl. A combined Epidural and GA was planned. Thoracic Epidural catheter was inserted at T_{9-10} level and anaesthesia was activated with 8ml of 0.25% Bupivacaine with 3 mg Inj Morphine. Pt was induced with Inj. Thiopentone , fentanyl and vecuronium and anaesthesia was maintained with Oxygen, air and Isoflurane in circle system.The procedure lasted for one hour. During intraoperative period her vitals were stable. Surgery was uneventful. Pt was extubated at the end of procedure. Postop analgesia was maintained with continous epidural infusion with 0.1% Bupivacaine and 2 mcg/ml fentanyl at 5 ml/hr. She was kept for observation in post-op ICU for one day during which was uneventful. 3rd post op day she was shifted to ward and was discharged from hospital on 8th post-op day.

DISCUSSION

Incidence of Pulmonary stenosis is about 8 - 12 % of all congenital heart diseases and is more common in females[1]. Anaesthetic management in this type of cases should be based on pathophysiological changes associated with pulmonary stenosis and tricuspid regurgitation and the anaesthetic

drug effect on this condition. The goal of anaethetic management is to avoid Hypoxia, hypercarbia, acidosis, hypothermia, increase in pulmonary and systemic vascular resistance and increase in airway pressure[2]. Adequate preload should be maintained. Excess fluid can increase Rt ventricular volume overload and may lead to arrhythmia[3,4]. This case was managed satisfactorily with combined epidural and GA. We didn't use N_2O and also provided epidural anaesthesia in order to avoid any raise in pulmonary vascular pressure. A smooth induction with narcotic and Thiopentone and muscle relaxant decreased the stress response during intubation. Intra-op and postoperative analgesia was maintained with epidural anaesthesia. Post operative pulmonary function was satisfactory because of good pain relief by epidural analgesia[12]. We did not use any invasive cardiovascular monitoring as it was a case of mild pulmonary arterial hypertension. So to conclude a combined general and epidural anaesthesia is a safe technique for these type of cases.

CONCLUSION

Patients having pulmonary stenosis with mild pulmonary arterial hypertension undergoing noncardiac surgery can be safely managed with balanced general anaesthesia and epidural analgesia without invasive monitoring.

REFERENCES

1. Xiushui Ren (Mike), Cannistra Lauralyn B. Clinical Cardiology Fellow, Division of Cardiology, Kanbar Cardiac Center, California Pacific Medical Center, eMedicine specialities. Cardiology, Valvular Heart Disease. Jul 15;2009.
2. Joubert IA, Dyer RA. Anaesthesia for the pregnant patient with acquired valvular heart disease.Anaesthesia. 19:1–2;2005
3. Siu SC, Colman JM. Heart disease and pregnancy. Heart. 85: 710-15;2001.
4. Siu SC, Sermer M, Harrison D. Risk and predictors for pregnancy-related complications in women with heart disease. Circulation . 96: 2789-94;1997.
5. Groeben H. Epidural anesthesia and pulmonary function. J Anesth . 20(4): 290-9;2006.