



ANAESTHETIC MANAGEMENT OF PATIENT WITH SEVERE PULMONARY HYPERTENSION FOR PALLIATIVE MASTECTOMY

Anesthesiology

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ABSTRACT

Here we describe a case of a patient having ASD, L to R shunt and severe pulmonary arterial hypertension presenting with ulcerative carcinoma left breast for palliative mastectomy. We have done the procedure under paravertibral block at T2 level with continuous infusion of local anaesthetic via catheter and light sedation.

KEYWORDS

Pulmonary arterial hypertension, Paravertibral block, ASD with L to R shunt , Palliative mastectomy

INTRODUCTION

Pulmonary arterial hypertension is a dreadful clinical condition with very high morbidity and mortality during peri operative period. Anaesthetic management should be meticulously done with close monitoring of fluid status as well as cardiac status to prevent the complications. General anaesthesia with controlled ventilation is to be avoided as far as possible. In this article we are describing management of a patient with ASD with L to R and severe pulmonary hypertension (PAP-69mmhg) for palliative mastectomy.

Case report

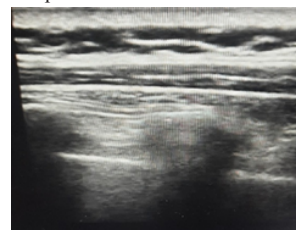
A 68 yr old Indian lady presenting with an ulcerative carcinoma left breast with bone and liver metastases for palliative mastectomy. She was asymptomatic irrespective of her poor effort tolerance. Her ASD with L to R shunt and severe pulmonary hypertension was an incidental finding during her cardiac work up. Her ECG showed sinus rhythm ,ECHO showed concentric LVH with stage 2 diastolic dysfunction, ostium secundum ASD with L to R shunt, severe pulmonary hypertension with PAP69 mmhg. LVEF52%. Considering the age, sex, type of ASD, uncorrected status which are predictors of development of pulmonary hypertension (1,2) we did not consider any invasive methods to confirm the pulmonary hypertension. After work up surgery was planned under left paravertibral block with controlled sedation. After connecting standard ASA monitors ringer lactate was connected to pre existing fresh intra venous access and started slowly. The patient was premedicated with 0.5mg midazolam and 20mcg fentanyl. Under strict asepsis and local anaesthesia and USG guidance right radial artery and right IJV were cannulated for invasive pressure monitoring. Paravertibral block was performed at T2 level in the left side under ultrasound guidance using superficial linear probe initially 0.5% ropivacaine bolus 20 ml was given and a catheter placed in the space for continuous infusion of 0.5% ropivacaine. Fentanyl infusion 10to 20mcg/hr was given for controlled sedation during surgery. 0.5% ropivacaine infusion 3ml /hr was given via paravetibral catheter at the commencement of surgery. Patient's vitals remained stable though out the surgery. 0.2% ropivacaine 3ml/hr infusion was given for post operative analgesia patient has got excellent intra operative and post operative analgesia with VAS less than 3 at any point of time. Patient's vitals were closely monitored in the ICU during the first 24 hrs post operatively. She was shifted to the step down ICU in the next day. Paravertibral catheter was removed and she was discharged in the third post operative day with out any peri-operative complications.

DISCUSSION

Pulmonary arterial hypertension is a clinical condition in which pulmonary arterial pressure more than 25mmhg at rest and more than 30mmhg after exercise. The pulmonary hypertension patients having greater morbidity and mortality compared to other high risk patients. Surgery specific cardiac risk graded according to the ACC AHA guidelines (4). According to this breast surgery , cataract superficial laparoscopy surgery comes under low risk procedure hence continuous pulmonary arterial pressure estimation was not done. Pulmonary

arterial hypertension is seen in 9-35%of patients with ostium secundum type of ASD(1,3). The predictors of development of pulmonary hypertension are female sex, age, size of defect and non closed status (1,2). ASD is characterised by a L to R shunt and volume over load in right side of heart and pulmonary circulation.

Paravertibral block is unilateral blockade of dorsal and ventral rami of spinal nerves along with the sympathetic chain ganglia. It can be performed at any vertebral levels but most commonly done in the thoracic level. (5,6) Advantages of ultrasound paravertibral blocks are short start up time, precise location of needle and catheter placement, long duration of blocks ,less local anaesthetic volume . (7). Ultrasound guidance also ensures less failure rate and complications. Peri operative pain control plays an important role in preventing complications. Post operative continuous infusion of local anaesthetic in to the paravertibral space provides excellent analgesia during post operative period.



CONCLUSION

Pulmonary artery hypertension is a rare but dreadful condition with increased perioperative morbidity and mortality. Extreme care should be taken to limit complications. Paravertibral block at T2 level provides analgesia for mastectomy . Since General anaesthesia is risky in this scenario , continuous paravertibral infusion with controlled sedation is an excellent and safe choice to prevent perioperative cardiac events.

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