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Mesh hernioplasty for inguinal hernia in Eisenmenger syndrome: local anesthesia approach

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Abstract

A 26 year old male was scheduled for mesh hernioplasty for right inguinal hernia. During preanesthetic checkup patient gave history of shortness of breath on exertion and blue discolouration of lips and fingertips childhood .Patient underwent since angiography one year before for which he was diagnosed with aorto pulmonary window with irreversible severe PAVC(Eisenmenger Syndrome) for which he was these medications: tab bosentas 62.5 mg BD, tab sildenafil 20 mg TDS, tab aptas -t 25 (was not taking for 2 months). Infiltration of local anesthesia is arguably the least invasive and safest of all anesthetics for hernia repair. Combined with appropriate intravenous sedation to remove any unpleasant memories, it has no equal for inguinal hernia repairs. And in eisenmenger syndrome- main anesthetic goal remains the avoidance of fall in arterial blood pressure by maintaining both the cardiac output and systemic vascular resistance (SVR) which can be achieved only in local anaesthesia.

Keywords: Eisenmenger syndrome (ES), Mesh hernioplasty, Repair

Introduction

Eisenmenger syndrome (ES) represents the most advancedform of pulmonary arterial hypertension (PAH) associated with congenital heart defects (CHD). Although pa-tients with ES frequently survive into their third or fourthdecades of life, the symptoms of this disease, which includedy spnea, cyanosis, fatigue, dizziness, and syncope, reducelife expectancy. In addition, cardiac arrhythmias, animportant late complication of ES, are a frequent cause of sudden death in patients with ES. ¹⁻²

During the past 50 years, the prevalence of ES in theWestern world has reduced by an estimated 50%, resultingfrom advances in surgery and pediatric cardiology. Clinical management of patients with ES has traditionally focused on palliative and supportive treatment; however, anincreased understanding of the pathophysiology of ES and the success of disease-

specific treatment for PAH hasoffered new hope for patients with ES. This review provides an overview of the pathophysiology and natural history of ES, an evaluation of similarities and differences between ES and PAH, and a summary of key data on emerging treatments.³⁻⁴

Mesh hernioplasty is one of the most commonly performed operations worldwide by local anesthesia approach or spinal anesthesia. Patient with Eisenmenger syndrome undergoing mesh hernioplasty special concern regarding heamodynamic stability and adequate pain relief should be given.

Case report

A 26 year old male was scheduled for mesh hernioplasty for right inguinal hernia. During preanesthetic checkup patient gave history of shortness of breath on exertion and blue discolouration of lips and childhood fingertips since .Patient underwent angiography one year before for which he was diagnosed with aorto pulmonary window with irreversible severe PAVC(Eisenmenger Syndrome) for which he was these medications: tab bosentas 62.5 mg BD, tab sildenafil 20 mg TDS, tab aptas –t 25 (was not taking for 2 months). He had pneumonia at age of two and half years and also underwent one episode of seizure when he was six year old.

On examination patient with E4V5M6 had cyanosis of lips, clubbing in fingers of hand and toe. Pulse rate was regular with loud prolonged S_1 with LA enlargement on chest X ray, with P mitrale pattern on lead 2 $\,$,3 and Avf on ECG. ECHO was showing left ejection fraction of 75% with severe PAH with mild TR with normal LV/RV function. Baseline investigation within normal range.

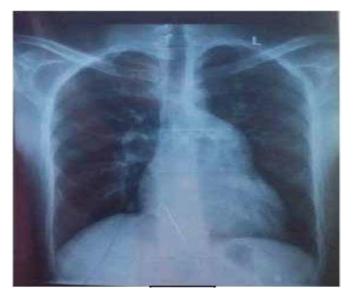


Figure 1: Chest x-ray PA view

After explaining anaesthetic procedure and risks involved, informed consent was taken.

In operating room standard ECG,NIBP and pulse oximeter were attached. 18 G intravenous cannula secured in left upper limb. Preoperative blood pressure was 110/70 mm hg, HR 96/min,spo2 89%, RR 16/min. Ventimask attached with oxygen flow @ 41/min.

Under aseptic condition site cleaned and drapped under ultrasound guidance TAP block given with 23 G quinckes needle ,10 cc bupivacaine 0.5% and 10 cc lingo adr 2% given with aspiration. 5 cc bupivacaine and 5cc lingo adr 2% given subcutaneously along linea nigra subcostal region .

Effect checked and Injection midazolam 2 mg iv to allay anxiety was given.

Patient - complaining discomfort 1 minute after incision, gradually increased along with pain as surgery proceeded.

Injection fentanyl 50 mcg given iv. When still pain not settled (VAS =8) Inj Ketamine 30 mg iv given. After 1 minutes pt underwent cataleptic posture (neck got rigid and turned to one side) followed by abnormal body movements (seizure). Patient shited to closed circuit

although he was spontaneously breathing. 2 episodes of seizure activity were seen intraoperatively but patient was maintaining his spontaneous ventilation. Postoperative vitals were HR 88/min, BP 138/90 mmhg, spo2 91% at ventimask with o2 @ 4L/min. No episode of seizure in postop period. Patient shifted to icu for monitoring.

ABG at ICU

•	PH	7.379	Na 126.3
•	PCO2	28.7	K 3.4
•	PO2	69	Cl 97
•	HCO3	3 16.6	Glu 117
•	BE	-6.8	Lac 0.76
•	SO2	93.6	

Pt shifted toward after 24 hr monitoring

Discussion

Preffered choice for all reducible adult inguinal hernia-LOCAL ANAESTHESIA (safe, simple, effective and economical).

Offer long postoperative analgesia by inhibiting buildup of local nociceptive molecules.

Intravenous Sedation: Although complication of intravenous drugs like episode of seizure in present case may be there but they are proven to improve success rate of LA.

Disease like chronic obstructive emphysema, heart disease (here- eisenmenger syndrome), and renal failure can easily be handled with local anesthesia without increasing the risk to the patient.(maintenance of Haemodynamic stability).

For surgery point of view:-testing of the repair at the conclusion of the operation, by having the patient cough, cannot be obtained with any other anesthesia method.

Dissatisfaction of LA - intraoperative pain and pain during infiltration + unsatisfactory muscle relaxation

especially in incarcerated hernias + distortion of anatomy of surgical site

Conclusion

Infiltration of local anesthesia is arguably the least invasive and safest of all anesthetics for hernia repair. Combined with appropriate intravenous sedation to remove any unpleasant memories, it has no equal for inguinal hernia repairs. And in eisenmenger syndromemain anesthetic goal remains the avoidance of fall in arterial blood pressure by maintaining both the cardiac output and systemic vascular resistance (SVR) which can be achieved only in local anaesthesia.

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