Original Research Paper

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Medical Science

LABOUR EPIDURAL ANALGESIA FOR CRITICAL MITRAL STENOSIS FOR LABOUR NATURAL

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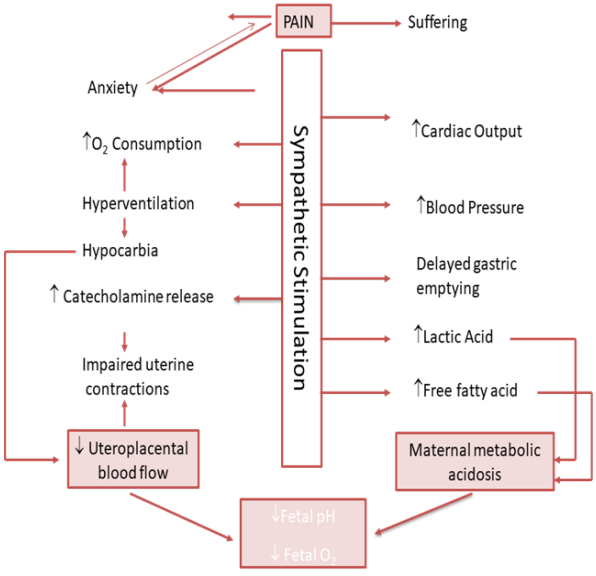
KEYWORDS :

INTRODUCTION:

Anaesthetic management of parturient with cardiac disease like rheumatic heart disease can be challenging. Maternal heart disease complicates 0.2-3% of pregnancies. Rheumatic mitral stenosis forms 88% of heart disease complicating pregnancy.Maternal mortality for parturient with mitral stenosis & NYHA functional class III&IV is 6.8 % as compared to 0.4% for those with NYHA functional class I & II.In this paper we present the successful anesthetic management of critical mitral stenosis, mild AR with moderate PHT who underwent labour natural under epidural analgesia.



ADVANTAGES OF LABOUR EPIDURAL:

Awake & cooperative patient,early bonding. NYHA I & II – ideal for labour analgesia. Reduced sympathetic response. HR, BP, SPO2, well maintained throughout labour. If surgical section was contemplated the same epidural could be continued.

CASE SCENERIO:

A 22 yrs old primi gravida, with term gestation had been admitted in HDU for safe confinement. Diagnosed as RHD with critical MS with mild AR only at 20 weeks of gestation during her regular antenatal screening. NYHA Class II. She was put on Tab .digoxin 0.25mg od (5/7),Tab .furosemide 40 mg od ,Tab .atenolol 50mg od, Tab .penicillin 250 mg od and syp.KCl (2tsp) by cardiologist. Her antenatal course otherwise uneventful. Elective caesarean section was planned at the time of admission, but incidentally she developed labour pain. As there was no obstetric C/I for vaginal delivery, a Multidisciplinary team decided for a trial vaginal delivery under labour analgesia. PV FINDINGS-3 cm dilatation, 50% effacement, head at brim, pelvis was adequate.

PATIENT DATA:

Weight approx.50 kg. No PICCLE/no signs of cardiac failure. PR-100/min,regular.BP-110/8 mm hg. RR-20/min,SPO2-99% at room air. CVS-loud S1 heard, S2 heard, mid diastolic murmur in mitral area and systolic murmur in aortic area. RS- BAE/NVBS, no added sounds. ABDOMEN – Uterus Term size ,acting , regular contraction +, FHS – Good.

BLOOD INVESTIGATIONS:

Hb-10.4g/dl, TC-7600 cells/cu mm, DC-N74 L15 E2 B1 M8, Blood sugar-82mg/dl, Blood urea-32 mg/dl ,s.creatinine-0.8 mg/dl, Serum Na+- 138 meq/l, serum K+-3.8meq/l, Prothrombin time-12sec, Partial thromboplatin time-27 sec, INR-0.88, URINE R/E- normal, ECG-sinus tachycardia ,right axis deviation ,left atrial enlargement, ECHO FINDINGS, No RWMA, LVD 4.4 cm,LVS-2.8 cm, Ejection fraction-66%,normal LV systolic function, MVA-0.8 cm2, Gradient (mean -14mmhg& peak-49mmhg), Pressure half time -191 m sec, AR mild, no AS, no MR.

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- Trivial TR,PG-35mmhg
- Moderate pulmonary hypertension
- No LA clot/no calcification

SEVERITY OF MITRAL STENOSIS

ANAESTHETIC GOALS:

Maintain low normal heart rate. Maintain normal sinus rhythm. Avoidance of aorto caval compression. Maintenance of adequate preload. Maintenance of adequate SVR. Avoid pain, hypoxemia, hypercarbia and acidosis (↑PVR). Well Informed consent for labour epidural analgesia obtained and procedure explained to the patient and her husband. Iv line secured with 18 G venflon in right forearm and RL maintenance drip started at 50 ml/hr,oral hydration was also allowed. Oxytocin infusion (5 units in 500 ml RL) started and titrated. Infective endocarditis prophylaxis given with inj . ampicillin 2 gm iv & inj gentamycin 80 mg iv one hour prior to epidural placement. Boyles machine checked, all emergency drugs and resuscitation equipments kept ready. Monitors-ECG,NIBP,Pulse oximeter and oxygen supplementation. Baseline vitals were measured and noted. Monitors were set to be measured every five mins till delivery of baby and ten mins there after for two hours postpartum. Under ASP/ RLP/18GTuohy needle /L3-L4 space/ LOR at 4cm/catheter threaded cephalad/ fixed at 9cm skin level. Test dose- 3 ml of 2% lignocaine without adrenaline. Patient turned supine with wedge under the right hip, maintained till delivery of baby.

PATIENT KEPT AT 45 DEGREES HEAD UP

10 ml of 0.2 % Ropivacaine with Fentanyl 2ug/ml given titrated

	normal	mild	moderate	Severe	Patient values
Mitral Valve area	4-6 cm sq	1.5 – 2.5	1.0 -1.5	< 1.0	0.8
Mean pressure gradient-mm of Hg	< 2	2 - 6	6 - 12	>12	29
Pulmonary art mean press – mm of Hg	10 – 20	20 - 30	30 - 50	> 50	35
Pressure half time (ms)	20-60	100	200	300	191

	HR	BP	spo2	ECG	FHR
baseline	100	126/70	99	SR	136
I dose 10 ml	78	110/70	99	SR	132
60 min	70-80	90-120/60-80	100	SR	140
II dose 6 ml	82	116/72	100	SR	132
45 min	60-80	100-110/60-70	99	SR	146
III dose 6 ml	80	120/68	100	SR	140
45 min	60-70	90-120/60-70	100	SR	138
10 ml 15 min before delivery	78	118/70	100	SR	142
Second stage	92	128/84	99	SR	-
After 15m	94	116/74	99	SR	-
Ater 2 hrs	70	112/70	99	SR	-

dose (initially 5 ml and followed by incremental dose of 3ml + 2ml) to achieve sensory level of blockade upto T10 level. Sensory block- cold sensation and pin prick. Motor block- Bromage scale –there was no motor blockade. Epidural top up was given when VAS score >3 or sensory level of regression < 2 segments. Hypotension was managed with guarded fluid bolus and inj. phenyl ephrine in 100 mcg bolus[2]. FHR and contraction monitored by external cardio toco graph. Oxygen was supplemented at the rate of 4lpm through venti mask till delivery of the baby.

Labour progressed and lasted for five hours. Second stage assisted by outlet forceps. Term alive and healthy male baby, 2.75 kg. APGAR 1,5 min-7/1o,8/10.Total blood loss was 500 ml .Urine output was 350 ml

POSTPARTUM FOLLOW UP:

Pain relief continued by epidural topup and catheter removed after 6 hrs. Puerperium was uneventful. Discharged one week later. Advised to undergo ballon mitral valvotomy after six months[3]. With the help of labour analgesia and good team efforts of our obstetrician, this patient with critical mitral stenosis who would have otherwise undergone caesarean section ,had a pain free and hemodynamically stable labour natural with excellent fetal outcome.

CONCLUSION:

Case report describes successful management of patient with critical mitral stenosis & mild AR with mod.PHT who delivered normally under epidural analgesia. Early planning, multidisciplinary care, cardiac screening, fluid management, and timely implementation of labour analgesia with appropriate opioids and local anaesthetics were essential in producing good maternal and fetal outcomes.

REFERENCES:

1. Madazli R, Sal V, Cift T, Guralp O, Goymen A. Pregnancy outcomes in women with heart disease. Arch Gynecol Obstet. 2009.
2. Sawhney H, Aggarwal N, Suri V, Vasishta K, Sharma Y, Grover A. Pregnancy outcomes in women with heart disease. Int J Gynaecol Obstet. 2003;80:9–14.
3. Silversides CK, Colman JM, Sermer M, Siu SC. Cardiac risk in pregnant women with rheumatic mitral stenosis. Am J Cardiol. 2003;91:1382–5.