

Original Research Article

Study of Breast Surgery under Thoracic Epidural Analgesia

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Abstract: Thoracic epidural anaesthesia (TEA) reduces cardiac and splanchnic sympathetic activity and thereby influences perioperative function of vital organ systems. A recent meta-analysis suggested that TEA decreased postoperative cardiac morbidity and mortality. Objective is to Study of Breast Surgery under Thoraco Epidural Analgesia as sole anesthetic technique. This study was conducted on 20 cooperative female patients of age group 42-55 year with ASA grade I-III. Procedure was done in either sitting or lateral position. Under full aseptic precautions 18 G epidural needle was introduced between T3-T4 or T2-T3 space after infiltration of local anesthetic agent. After confirmation of the space epidural catheter was placed and 2.5 to 3.5 cm of catheter length was kept inside. After Proper Fixation of the catheter patients were made supine. A test dose of 2 ml Xylocaine 2% with adrenalin was injected before giving proper local anesthetic dosage. Patients pulse rate, Blood pressure and respiration were noted. Inj Xylocaine 1.5% 12 ml was injected through the catheter and analgesic effects were awaited. After checking adequate blockade surgery was allowed after positioning of sand bag under operative site. From Our study we conclude that midthoracic epidural analgesia technique is a safe alternative acceptable method for various breast surgery with excellent postoperative pain relief and early recovery.

Keywords: Thoracic epidural analgesia, Operative breast surgery, Post operative pain

INTRODUCTION

Thoracic epidural anaesthesia (TEA) has been established as a cornerstone in the perioperative care after thoracic and major abdominal surgery providing most effective analgesia [1]. Beyond its analgesic properties, TEA's effects on the postoperative neurohumoural stress response, cardiovascular pathophysiology, and intestinal dysfunction have been in the focus of both clinical and experimental investigations for years. However, the use of TEA is related to specific complications and contraindications. TEA appears to ameliorate gut injury in major surgery as long as the systemic haemodynamic effects of TEA are adequately controlled. The functional benefit in fast-track and laparoscopic surgery needs to be clarified. Better pain control with TEA is established in a wide range of surgical procedures. In a setting of advanced surgical techniques, fast-track regimens and a low overall event rate, the number needed to treat to prevent one death by TEA is high. The risk of harm by TEA is even lower, and other methods used to control perioperative pain and stress

response also carry specific risks [2]. To optimize the risk-benefit balance of TEA, safe time intervals regarding the use of concomitant anticoagulants and consideration of reduced renal function impairing their elimination must be observed. Infection is a rare complication and is associated with better prognosis. Close monitoring and a predefined algorithm for the diagnosis and treatment of spinal compression or infection are crucial to ensure patient safety with TEA. The risk-benefit balance of analgesia by TEA is favourable and should foster clinical use [3].

MATERIAL AND METHODS

This study was conducted at B.J Medical College and Civil Hospital, Ahmedabad, Gujarat from Dec 1998-March 1999 on 20 cooperative female patients of age group 42-55 year with ASA grade I-III.

On the previous day of surgery, Informed consent was obtained after the procedure was explained to the patients for whom thoracic epidural was planned

for surgery. Patients were thoroughly examined and investigated during preoperative visit.

On the day of surgery patients were premedicated with Inj pentazocin 0.3 mg/kg and Inj Phenargan 0.5 mg/kg I.M Intramuscularly before 30 min of the procedure.

On the table patients pulse rate, BP, respiratory rate and Oxygen saturation were recorded and other monitor applied. Peripheral venous line was secured with wide bore intracath and patients were preloaded with 500 ml to 1000 ml of Ringer lactate.

Thoracic vertebral spaces C7-T7 were marked with pencil before the procedure. Procedure was done in either sitting or lateral position. Under full aseptic precautions 18 G epidural needle was introduced between T3-T4 Or T2-T3 space after infiltration of local anaesthetic agent. Epidural space was located either by hanging drop or loss of resistance method. After confirmation of the space epidural catheter was placed and 2.5 to 3.5 cm of catheter length was kept inside. After Proper Fixation of the catheter patients were made supine.

A test dose of 2 ml Xylocaine 2% with adrenalin was injected before before giving proper local anesthetic dosage.

Patients pulse rate, Blood pressure and respiration were noted. Inj Xylocaine 1.5% 12 ml was injected through the catheter and analgesic effects were awaited. After checking adequate blockade surgery was allowed after positioning of sand bag under operative site.

Repeated dose of local analgesic was provided with 0.5% Bupicaine 8cc along with Inj tramadol 50-100 mg(1-2 ml) made up to a volume of 10 cc through the epidural catheter according to the duration of surgery. Intraoperative complication like bradycardia was treated with Inj Atropine sulphate 0.5 to 1 mg intravenously.

After the completion of surgery patients were shifted to postoperative room. Pulse, BP, Respiratory rate were noted every 15 min and patients shifted to ward with stable vital data.

Verbal assessment of pain was done in the ward and patients were provided with Inj Tramadol 50-100 mg epidurally for postoperative relief till 48 hours postoperatively and observed for any side effects.

RESULTS

20 Female patients between 42-60 year of age undergoing breast surgery studies during the period of Dec 1998-March 1999.

Table-1: Age wise Distribution of participants

Age group(Yr)	No of patients
41-45	4
46-50	6
51-55	8
56-60	2
Total	20

* Age in year

Table-2: Showing coexisting diseases

Diseases	No of patients
IHD	2
Hypertension	3
IHD + Hypertension	1
Diabetes melitus	1
Asthma	1

All patients were advised to continue their respective medication for the above disease but no patient developed any problems related to them either intra or postoperatively.

Table-3: Showing Type of surgery

Type of surgery	No of patients
Modified radical mastectomy(MRM)	15
Simple mastectomy	3
Antibioma excision	1
Fibroadenoma-Frozen section	-
Biopsy & Excision	1

Maximum no of cases were posted for MRM under thoracic epidural analgesia.

Table-4: Showing Type of surgery

Time in hours	No of Patients
1.5-2.5	4
2.5-3.5	14
3.5-4.5	2

Maximum no of cases took around 3 hours to be completed.

Table-5: Degree of intraoperative Analgesia

Degree of pain	No of patients
0- No pain	12
1- Slight pain	4
2-Discomfort	2
3-Unbearable pain	0
2-Excruciating pain	0

12 patients out of 20 had complete analgesia. 4 patients complained of slight pain initially at the time skin incision and 4 patients showed discomfort towards the end of operation. All these 8 patients received small and additional doses of diazepam or midazolam.

Table-6: Incidence of Complication

Complication	No of patients
Bradycardia	3
Hypotension	-
Nausea	1
Respiratory Depression	2

Bradycardia was treated with Inj Atropin 0.5-1 mg I.V.

1 patients who complained nausea did not require any treatment other than reassurance. 2 patients who showed fall in Oxygen saturation below 90% were treated with oxygenation by mask and intermittent awakening. There was no other intraoperative or postoperative major complication which needed active intervention.

Table-7: Postoperative pain score at 6, 12, 24 & 48 hours

No of patients	6 hr	12hr	24hr	48 hr
18	0	0	0	0
1	0	1	1	0
1	0	0	0	1

DISCUSSION

There are studies that suggest perioperative thoracic epidural analgesia hastens Postoperative recovery from abdominothoracic surgery. Though epidural catheter was kept preoperatively and medication given pre, Intra and postoperatively, most of the studies showed patients received general anaesthesia along with muscle relaxants for maintenance of anaesthesia [1].

As we know breast surgery does not require muscle relaxation and thoracic medication provides very good analgesia. We have tried to evaluate the efficacy of TEA as sole anaesthetic measure for breast surgery cases [5].

In our study 20 patients of ASA I-III underwent breast surgery and midthoracic epidural analgesia was provided to all of them. Adequate level of sedation made the patients cooperative during anaesthetic procedure as well as during surgery and postoperative period.

Midthoracic epidural catheterization is comparatively easier and safe procedure for providing anaesthesia for breast surgery. Perioperative TEA helps in early extubation and so hastens postoperative recovery and thus reduces morbidity [3].

In our study we observed the effects of TEA on high risk group patients with ischaemic heart disease, Hypertension, asthma etc. There was no significant change in vital data after 6 hours during and

after the surgery. There are certain studies which show that myocardial blood flow to areas at risk improves after sympathetic stimulation is suppressed by TEA and it has antiischaemic effects.

In our study we did not find any procedure related complication like misplacement of catheter, accidental spinal tap, spinal haematoma etc.

TEA is one of the modern widely acceptable treatments for Blunt thoracic trauma and unstable angina cases. Epidural analgesia with narcotics and/or local anaesthetic instillation is useful for all types of severe pain including herpetic and surgical pain and it provides superior pain relief to conventional therapy [7-8].

In Our study Group all patients expressed satisfaction for anaesthesia provided to them and especially postoperative pain relief. Regional analgesia technique have their own advantages and thus general anaesthesia can be avoided with out facing major problems with TEA as a sole anaesthetic technique for breast surgery.

CONCLUSION

From Our study we conclude that midthoracic epidural analgesia technique is a safe alternative acceptable method for various breast surgery with excellent postoperative pain relief and early recovery.

We have shown a live demonstration of breast surgery done under TEA on a calm patient so that people in auditorium far away from operation theatre could also see the procedure, and with 2 way communication at the Work Shop of Regional Anaesthesia (WRA 99) held on March 28 th 1999 at B.J Medical College and Civil Hospital, Ahmedabad.

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