

Cervical Epidural for Mastectomy as an Alternative to General Anaesthesia: Case Report

A Srivastava, Y Singh, G Sinha, Surender

Citation

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Abstract

General Anaesthesia is choice of anaesthesia for surgeries of breast like modified radical mastectomy (MRM). But in some patients with lung diseases and poor pulmonary function, there are some disadvantages with G.A. For these patient regional anaesthesia may be better choice. We used cervical epidural block for Modified Radical Mastectomy with Axillary Clearance.

INTRODUCTION

Epidural anaesthesia is a central neuraxial block technique and can be used as sole anaesthetic for procedures involving the lower limbs, pelvis, perineum and lower abdomen. It is possible to perform upper abdominal and thoracic procedures under epidural anaesthesia alone, but the height of block required, with its attendant side effects, make it difficult to avoid significant patient discomfort and risk. The advantage of epidural over spinal anaesthesia is the ability to maintain continuous anaesthesia after placement of an epidural catheter, thus making it suitable for procedures of long duration. This feature also enables the use of this technique into the postoperative period for analgesia, using lower concentrations of local anaesthetic drugs or in combination with different agents. Cervical epidural is now a described modality for breast surgeries as an alternative to G.A.

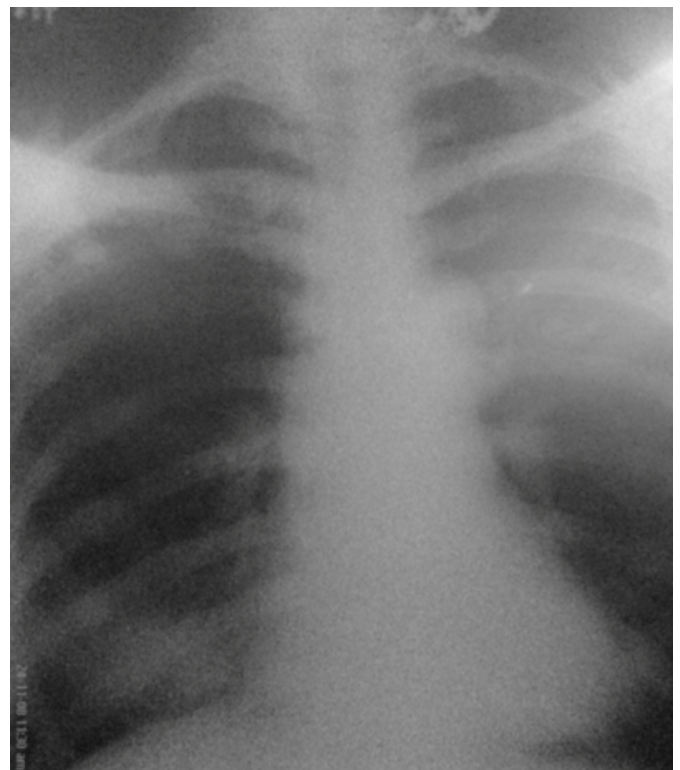
CASE REPORT

A 45 years old 60 kg female patient was posted for Modified Radical Mastectomy with history of interstitial lung disease and frequent chest infection. She had dyspnoea with bilateral ronchi. She was taking steroids and beta agonist inhaler with montelukast and antibiotics. Pulmonary function test was suggestive of severe restrictive disease. Cervical epidural anaesthesia was planned for her. After attaching monitors like ECG, NIBP and SpO₂, the patient was prepared in sitting position with neck flexion. 18 G epidural catheter was introduced with standard loss of resistance technique at C7-T1 space and put up to level of C5. Lignocaine 2% with adrenaline 10ml was given after test dose of 3 ml. Proper anaesthesia was achieved after 20 minutes. Continuous

watch on respiration was taken. Amnesia was provided with midazolam 1mg i.v. Surgery was done without any complaint of pain. Intraoperatively 5ml of lignocaine was repeated after 30 minute. Postoperative analgesia was given with 0.125% bupivacaine intermittently.

Figure 1

Fig: X Ray Chest PA View



DISCUSSION

Cervical epidural anaesthesia (CEA) is not much preferred

modality of regional anaesthesia, when compared to thoracic or lumbar epidural anaesthesia.

It is relatively rarely used alternative for Breast surgeries. First to describe the technique of CEA was Doglioth₁ in 1933 for thoracic procedures, using a single shot of local anaesthetic solution (lidocaine). HAKL et al₂ described the use of CEA in 215 patients, who underwent carotid end arterectomy with conscious neurological monitoring, while SINGH et al₃ already reported their experience with cervical epidural anaesthesia for modified radical mastectomy.

This is done by placing an epidural catheter in C7-T1 intervertebral space is used for catheter placement. Either hanging drop technique or injection of 2-3 ml of air can be used to locate the epidural space. It is frequently successful and provides a high quality anaesthesia and post operative anaesthesia of the dermatomes. CEA also has a favorable effect on hemodynamic variables by blocking sympathetic innervations of the heart.₄

The complications of CEA includes the possibility of local anaesthetic administration into the subarachnoid space, bleeding with epidural hematoma formation and infection (epidural abscess). Bonnet et al₅ noted in a retrospective study of 394 patients, dural puncture in 2(0.5%), epidural venepuncture in 6(1.5%) and respiratory muscle paralysis in 3(1.4%). HACK et al₂ reported migration of local anaesthetic

solution into subarachnoid space in 6(2.8%), failed epidural puncture in 3(1.4%) and blood observed in epidural catheter in 4 patients(1.8%). Bilateral partial phrenic nerve palsy is also a possible complication of CEA. The decrease in respiratory vital capacity owing to partial phrenic nerve block and paralysis of intercostal muscles are usually clinically irrelevant in patient without lung disease.₆

So according to us CEA can be an alternative to general anaesthesia in patient with ILD or any other contributory factors, which makes GA less suitable.

References

1. DOGLIOTHI A M. A new method of block anaesthesia; segmental-peridural spinal anaesthesia. *Am J Surg* 1933; 20:107-18
2. Hakl M, Sevik P, Pavlikova J, Kraus R. Cervical epidural anaesthesia for carotid artery surgery new experience. *Int Monitor Reg. anaesth.* 1998; 10:79
3. Singh A, Tiwari M, Singh D, Shukla H, Cervical epidural anaesthesia a safe alternative to general anaesthesia for patients undergoing cancer breast surgery. *World J Surg* 2006; 30: 2043-47
4. Biboulet P, Deschodt J, Capdevilla X, et al Hemodynamic effects of 0.375% bupivacaine versus 0.25% bupivacaine during cervical epidural anaesthesia, for hand surgery. *Regd. Anaesth* 1995; 20: 33-44
5. Bannet F, Derosier JP, Pluskwa F, et al. Cervical epidural anaesthesia for carotid artery surgery. *Can. J. Anaesth.* 1990; 37: 353-8
6. Capdevilla X, Biboulet P, Rubenovitch J, et al. The effects of cervical epidural anaesthesia with bupivacaine on pulmonary function in conscious patients. *Anaesth. Andy* 1998; 86:1033-8

Author Information

Abhishek Srivastava, M.B.B.S.

Junior Resident & M.D. Student, Department of Anaesthesiology, Institute of Medical Sciences, Banaras Hindu University

Yashpal Singh, M.B.B.S.

Junior Resident & M.D. Student, Department of Anaesthesiology, Institute of Medical Sciences, Banaras Hindu University

G.K. Sinha, M.D.

Reader, Department of Anaesthesiology, Institute of Medical Sciences, Banaras Hindu University

Surender, M.B.B.S.

Junior Resident & M.D. Student, Department of Anaesthesiology, Institute of Medical Sciences, Banaras Hindu University