



## Case Report

# Elderly Patient with Scoliosis and Multiple Vulvular Disorders Posted For Orthopaedic Surgery- A Pivotal Role of Continuous Spinal Analgesia

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## ABSTRACT

**Introduction-** *The use of CSA (using epidural catheter as spinal catheter) has a number of perks to offer. The dose of the drug can be tailored to patient's need and duration of procedure, with no limitation of drug dose and subsequent chances for GA.*

**Case Report-** *Our patient is an elderly female, presented with fracture trochanter in emergency deptt. Has multiple vulvular abnormalities along with lumbar spinal scoliosis.*

**Discussion-** *The technique of continuous spinal anaesthesia (CSA) is quite promising in elderly high risk pts in whom the chances of PDPH are very less. The use of minimal haemodynamic monitoring in CSA is supported by many works in literature.*

**Conclusion-** *CSA is a technique which needs to be introduced widely in our practice especially in elderly, cardiac, high risk pts, considering its lead in dose titration, reliability and reproducibility of its effect.*

## INTRODUCTION

The technique and importance of continuous spinal analgesia through a spinal catheter in high risk orthopaedic patients seems to be long forgotten and ignored. Since its first use back in 1900's by Dean, Tuohy revised the technique using a 15G cannula. Since then there was gradual shrinkage of size of catheters and needles, till the reporting of neurological dysfunction (cauda equina syndrome), severe hypotension and bradycardia from use of microcatheters (27- 32G).

The use of CSA (using epidural catheter as spinal catheter) has a number of perks to offer. The dose

of the drug can be tailored to patient's need and duration of procedure, with no limitation of drug dose and subsequent chances for GA also added disadvantages of a local anaesthetic toxicity from giving a high single shot dose. Other advantages being decrease of surgical stress, diminished surgical bleeding, and decreased chances of thromboembolism. Also there is possibility of postoperative analgesia with opioids or local anaesthetics. We can use PCA and pumps along with bacterial filters and necessary aseptic precautions. The patients of scoliosis need special consideration.

## CASE REPORT

Our patient is a 65 years female, presented with fracture trochanter in emergency deptt of PGIMS, Rohtak, K/C/O DM type2, taking metformin (500mg OD) since last 8 years. Presently on inj insulin (mixtard). Pt is also taking antitubercular drug (ATT) since one month. On examination of the back pt had grade II scoliosis (Cobb's Angle 14) (fig 2). Chest Xray showed significant cardiomegaly. ECG showed sinus tachycardia, ST- T wave abnormality and left ventricular hypertrophy and strain but pt had no H/O dyspnea or syncope. She had minor complaints of transient dizziness and blurring of vision which we suspected to be transient ischaemic attacks (Fig 1). Considering the age and history we went for ECHO, which showed aortic valve sclerosis with moderate AS (aortic stenosis), moderate TR, trivial MR with grade II diastolic dysfunction. EF was 60-65%.

We proceeded with routine fasting and premedication protocols. All emergency drugs (phenylephrine, atropine, dobutamine, noradrenaline) were kept ready. Phenylephrine is preferred because pt has added advantage of restoring normal BP without tachycardia- gold standard in pts of AS. Apart from standard monitoring (NIBP, HR, ECG, SPO<sub>2</sub>) and considering a high risk short duration surgery, except for rt radial arterial cannulation for continuous beat beat arterial BP monitoring, no special monitoring was considered.

Pt given inj glyco 0.2 mg, inj fentanyl 30 mg and made to sit. An epidural set (B Braun) consisting of tuohy needle (18G) and catheter (27 G) was taken. Following complete aseptic precautions, we proceeded. Since pt had lumbar scoliosis, the most convex point of spine was chosen for insertion of spinal (in our case epidural) needle and catheter(fig 3). Catheter was inserted upto 3 cm intrathecally after free flow of CSF was confirmed and fixed. To prevent excessive CSF loss, the catheter was inserted rapidly. Pt made to lie down and 5 mg of bupivacaine heavy (anawin, 0.5%) given. The level was checked using cold swab, it

was T8 after 10 min of injection. Repeat 2.5 mg bupivacaine bolus given and surgery started after level of T10 was achieved.

**Fig 1:** Preanaesthetic checkup form of patient along with ECHO report



**Fig 2:** Back of the patient showing scoliotic spine



**Fig 3-** procedure of CSA being performed (using epidural set)

## DISCUSSION

Gist of our case revolves around four points-

- 1) Elderly pt
- 2) Multiple vulvular abnormalities
- 3) Scoliotic spine
- 4) Orthopaedic surgery

The technique of continuous spinal anaesthesia(CSA) is quite promising in elderly high risk pts in whom the chances of PDPH (Postdural puncture headache) are very less. Epidural anaesthesia in ortho pts may not give the desired immediate effects (analgesia, muscle relaxation) and is difficult to maintain. Also there is no confirmation of its correct placement.<sup>1</sup>

The haemodynamic alterations associated with GA (laryngoscopy, intubation, drugs) during induction and maintenance, may not give adequate margin of safety in elderly pt with cardiorespiratory compromise. The use of minimal haemodynamic monitoring in CSA is supported by many works in literature.<sup>2,3</sup> Lopez and colleagues reported two cases of hip fracture operated under CSA.<sup>4</sup>

Haemodynamic goals in pts of AS calls for maintenance of normal sinus rhythm with adequate volume loading and high normal systemic vascular resistance (SVR). These pts cannot compensate for fall in SVR with severe hypotension leading to reduced contractility and fall in coronary perfusion. The benefit of titrating the dose of local anaesthetic in CSA gives it a lead

role of 'Maximum effect with minimum drug' technique and thus supports our choice.<sup>2</sup> Although the optimal central neuraxial technique in scoliotic pts has not yet been studied, a study done by Ballarapu et al, supports spinal analgesia in preference to epidural in pts of scoliosis because technically spinal anaesthesia is much easier and chances of patchy, unilateral effect or failure of block are less.<sup>5</sup> We used CSA, so chances of failure of block were technically ruled out dose could be repeated or the drug could be changed.

CSA can be extended to give postoperative analgesia as patient controlled analgesia (PCA) through pumps using opioids. This approves our choice of CSA in high risk orthopaedic pts. We did not preferred this as the extent of postoperative care and asepsis a spinal catheter requires is difficult to achieve in a busy govt. setup as ours.

Pt was observed in recovery room till complete weaning of spinal effect (movement of opposite limb) which lasted for 2 hours, to ensure no haematoma formation from dural puncture by a thick bore needle. After giving 0.5 ml of bupivacaine (2.5 mg), spinal catheter was removed and pt shifted to the ward.<sup>6</sup>

Finally our case too had Achilles' heal. CSA is a technique that calls for high asepsis, we tried our best inspite of limited resources. Secondly future research is required to confirm the exact titration boluses to be given in CSA.

## CONCLUSION

Considering the above discourse, CSA is a technique which needs to be introduced widely in our practice especially in elderly, cardiac, high risk pts, considering its lead in dose titration, reliability and reproducibility of its effect.

**CONSENT-** A written informed consent of the patient was taken for reporting this case.

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**CONFLICT OF INTEREST-** None declared

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