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CONTINUOUS SPINAL ANAESTHESIA -A SAFE ALTERNATIVE IN TRAUMA & GERIATRIC PATIENTS- CASE SERIES

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Abstract:
Spinal anaesthesia when given by a catheter placed through an epidural needle is called continuous spinal anaesthesia (CSA). This should be done with strict aseptic precautions and this gives an advantage of extending the anaesthesia when needed with no compromise in hemodynamics and provides postoperative analgesia also. Here we have selected elderly and trauma patients and conducted anaesthesia successfully without any complications.

Key Words:Subarachnoid Block, Continuous, Anaesthesia.

Introduction:

Continuous spinal anesthesia for lower limb and lower abdominal surgical procedures is a less frequently used technique though with careful placement and post op care can prove to be very advantageous. Placing an indwelling catheter in the subarachnoid space offers the advantages of prolonging the time of anesthesia, post operative analgesia, faster onset of action and better muscle relaxation compared to epidural anesthesia, lesser toxicity and hemodynamic response due to lesser quantity of drug being used. In this case series we have implemented this anaesthetic technique for a varied category of patients including young and elderly patients.

Materials and Methods:

A patent 18 gauge intravenous cannula was secured, patients preloaded with10 ml/kg of RL, patient connected to ECG, pulse oximetry, heart rate and blood pressure monitoring. Baseline vital parameters noted down. With patient in sitting position local infiltration with 2ml of 0.5% lignocaine given after raising a skin wheal. Lumbar puncture performed using 18 gauge Tuohy needle, followed by threading in of 20 G epidural catheter after CSF back flow as fast as possible to avoid CSF loss. In each case, approximately 5cm of the catheter was left inside the sub arachnoid space. Patients were put in supine position following the procedure. Hyperbaric bupivacaine 0.5% solution used so as to control and limit the level of anaesthesia. Keeping in mind the catheter dead space 1.8ml (0-8 ml being the dead space of catheter and filter) of the drug was injected in each patient and level of anaesthesia checked by pin prick. If adequate level of anaesthesia not achieved then an additional 0.5 ml given and level of anaesthesia tested after 3 minutes. Once the level of anaesthesia receded by 2 segments during the surgical procedure, top up of 0.5 % bupivacaine 1 ml given after checking for CSF back flow. For post operative analgesia fentanyl was given through the continuous spinal catheter in doses of 25micrograms to 50 micrograms and vitals noted. The catheter was removed after 48 hours and tip sent for culture.

Patient Details:

Sl No:	AGE (yrs)	SEX	IP No:	ASA	DIAGNOSIS	PROCEDURE
1	70	M	219968	2	BPH with HTN	TURP
2	82	M	220033	2	Ca –prostate	TURP
3	45	M	223282	3	Squamous cell carcinoma penis	Partial penectomy with left ilio inguinal lymphadenectomy
4	25	M		1	delayed union-left tibia shaft fracture with implant in situ	Implant removal and bone grafting for tibial shaft

5	92	F	229183	2	Closed right sub trochanteric fracture with LVH	Long PFN
6	81	F	236423	2	Closed IT fracture right femur	CRIF with PFN
7	19	M	237646	2	Left femur and Tibia fracture	CRIF WITH IMIL
8	34	M	223804	2	1 month old left both bone fracture with external fixator	External fixator removal and nailing of left tibia

Discussion:

This study on continuous spinal anaesthesia was done with an aim to show that the rarely used procedure could prove beneficial in a varied category of patients like elderly, traumatic patients with unstable hemodynamics. In one case series, they used standard catheters (18 g) without any complications; we used 20 g catheters in our cases [1]. In our case series 2 patients had hypotension with initial dose which responded to Inj Mephentermine and IV fluids, other patients stable hemodynamically and in the post operative period had good analgesia. This technique allows us to titrate the drug to desired effect without compromising the hemodynamic [2]. The first dose of bupivacaine would give analgesia up to T 10 and subsequently the total dose in most of the patients was 2.5 ml of hyperbaric bupivacaine for an average surgical duration of 180 minutes. In one more case report they have used this technique successfully in a patient with multiple co-morbid conditions [3]. The intrathecal catheter tips were sent for culture and sensitivity to test to rule out any infection. No micro organism growth was detected in any of the catheter tips, No side effects like PDPH, cauda equina syndrome or intra vascular migration of catheter was come across.

Conclusion:

Continuous spinal anesthesia was being used earlier and again saw a decline may be because of complications, but with strict aseptic precautions and judicial use of medications it provides good analgesia for operative and postoperative period with stable hemodynamic in trauma & elderly patients with co-morbid conditions.

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