

Nerve Stimulator Guided Combined Lumbar and Sacral Plexus Blockade in a Geriatric Patient with Aortic Stenosis

Shiladitya Bose*

Department of Anesthesiology, University Institute of Technology, West Bengal, India

ABSTRACT

Administering anaesthesia to patients with preexisting cardiac disease is an interesting challenges especially those with valvular heart disease. Aortic Stenosis (AS) is an important valvular lesion in anesthesia as patients are at an increased risk of perioperative cardiac events but they can undergo non-cardiac surgery relatively safely provided that the condition is recognized and appropriate monitoring and management is put in place, such as prevention of hypotension and any hemodynamic change that will decrease cardiac output. Traditionally, neuraxial blockade has been contraindicated in these patients because of sudden and potentially profound decrease in systemic vascular resistance which may precipitate life-threatening compromise in coronary perfusion. Peripheral nerve blocks may provide ideal perioperative analgesia for these patients because they are not associated with hemodynamic instability or depression of pulmonary function. We hereby report the use of a PNS guided combined lumbar and sacral plexus block for reduction of hip fracture in an elderly patient with aortic stenosis.

Keywords: Analgesia; Oliceridine; Opioid; Pain; Postoperative nausea; Vomiting

DESCRIPTION

A 75 year old lady was posted for proximal Femoral Nailing (PFN) following an intertrochanteric fracture of right femur. She had no comorbidities and apparently no other medical history. She had no known drug allergy. In the preoperative physical examination we found a systolic murmur, and cardiomegaly on chest X-ray [1]. We decided to perform a preoperative cardiac evaluation and an echocardiogram. This revealed a moderate aortic stenosis, with an aortic valve area of a peak aortic gradient of added to an ejection fraction of 67% and mild pulmonary arterial hypertension. ECG showed normal sinus rhythm. The patient refused previous symptoms related to aortic stenosis [2].

In the operation theatre we performed a PNS guided combined lumbar and sacral plexus blockade where the patient was positioned laterally, with the operated side being uppermost, and the limb to be blocked flexed at both hip and knee. The lumbar plexus block was performed using Winnie's technique while the sacral plexus block was based on Mansour's technique [3]. The lumbar and sacral plexuses were identified via a neuro-

stimulator, using a current strength of 0.5 to 0.8 mA at 1 Hz. Patellar ascension by quadriceps femoris muscle twitch was used to identify the lumbar plexus, while foot plantar flexion or dorsiflexion was interpreted as being in proximity to the sacral plexus. After aspiration to ensure that the needle was not within a blood vessel, 15 mL of a solution containing [0.5% bupivacaine + 2% lidocaine with epinephrine (1:200,000) + Inj Dexamethasone 8mg] was injected near the lumbar plexus and 15 mL was injected near the sacral plexus.

After that, we positioned the patient for surgery. The patient did not require any vasopressor agent administration during the operation; only slightly sedated with total intravenous dose of 2 mg midazolam, and did not require rescue analgesia. The total procedure lasted 70 min. Vital signs and haemodynamic parameters remained stable throughout the intervention. We gave a total fluid volume of 750 mL of lactated Ringer's solution, guided by haemodynamic parameters. Estimated blood loss was 400 mL. Sensory and motor block regression was evaluated by pinprick and modified Bromage scale every hour postoperatively.

Correspondence to: Shiladitya Bose, Department of Anesthesiology, University Institute of Technology, West Bengal, India, Tel: 8105511165; E-mail: shiladityabs@gmail.com

Received: December 02, 2021; **Accepted:** December 17, 2021; **Published:** December 24, 2021

Citation: Bose S (2021) Nerve Stimulator Guided Combined Lumbar and Sacral Plexus Blockade in a Geriatric Patient with Aortic Stenosis. J Anesth Clin Res. 12:1037.

Copyright: © 2021 Bose S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Sensory and motor blockade was resolved completely at 7th and 8th hours, respectively [4]. Recovery period was uneventful.

CONCLUSION

When elderly patients with co-morbid conditions require femur or hip surgery, the peripheral nerve blockade is a viable alternative to central neuraxial blockade and general anesthesia and a PNS guided combined lumbar and sacral plexus block just explains how benefits of regional anesthesia may outweigh risks of general anesthesia, epidural and a sub arachnoid block especially for hip surgery in elderly patients with aortic stenosis when the technique is carefully conducted.

CONFLICT OF INTEREST

There is no conflict of interest

REFERENCES

1. Caldera DL, Nussbaum SR, Southwick FS, Krogstad D, Murray B, Burke DS, et al. Multifactorial index of cardiac risk in noncardiac surgical procedures. *New England Journal of Medicine*. 1977;297(16): 845-850.
2. Kertai MD, Bountioukos M, Boersma E, Bax JJ, Thomson IR, Sozzi F, Klein J, Roelandt JR, Poldermans D. Aortic stenosis: an underestimated risk factor for perioperative complications in patients undergoing noncardiac surgery. *The American journal of medicine*. 2004;116(1):8-13.
3. De Visme V, Picart F, Le Jouan R, Legrand A, Savry C, Morin V. Combined lumbar and sacral plexus block compared with plain bupivacaine spinal anesthesia for hip fractures in the elderly. *Regional Anesthesia & Pain Medicine*. 2000;25(2):158-162.
4. Ho AM, Karmakar MK. Combined paravertebral lumbar plexus and parasacral sciatic nerve block for reduction of hip fracture in a patient with severe aortic stenosis. *Canadian Journal of Anesthesia*. 2002;49(9):946-950.