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## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/18587

DOI URL: <http://dx.doi.org/10.21474/IJAR01/18587>



### RESEARCH ARTICLE

#### CONTINUOUS SPINAL ANAESTHESIA FOR PROSTATIC ADENOMECTOMY IN PATIENT WITH SEVERE AORTIC STENOSIS

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#### Manuscript Info

##### Manuscript History

Received: 24 February 2024

Final Accepted: 27 March 2024

Published: April 2024

#### Abstract

Continuous spinal anesthesia is an interesting alternative in patients at high cardiac risk. We report the case of a patient who was scheduled to undergo prostatic adenomectomy. The pre-anesthetic consultation revealed a tight aortic stenosis. In the absence of therapeutic options at the aortic level, it was decided to operate this patient under continuous spinal anesthesia. This technique consists of placing a catheter intrathecally allowing the injection of a low dose of local anesthetic. Our unit did not have a continuous spinal anesthesia kit, an epidural anesthesia kit was used as an alternative.

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#### Introduction:-

Spinal anesthesia is a simple, reliable and effective anesthesia, increasingly used over the last decade (1). In patients with severe aortic stenosis this technique is not recommended. The main risk is depriving of the heart pump secondary to vasoplegia induced by sympathetic block. Continuous spinal anesthesia, for its part, allows titration of local anesthetics and, therefore, an attenuation of hemodynamic repercussions (2).

We report our experience of continuous spinal anesthesia during prostate surgery in a patient with severe aortic stenosis.

#### Observation:-

A 70-year-old man with a history of high blood pressure treated with CE inhibitors and diabetes taking oral antidiabetics. Upon interrogation his functional capacity was limited. Clinical examination revealed a murmur suggestive of aortic stenosis, blood pressure at 160/60 mmHg, heart rate at 70 bpm. The electrocardiogram revealed electrical left ventricular hypertrophy and complete right bundle branch block. The initial biological assessment included: a blood count Hb=16g/dl; platelets = 250,000/mm<sup>3</sup>, a serum creatinine =18.6 g/l, a Prothrombin Level = 87.6% and an iso TCK compared to the control. Preoperative echocardiography confirmed aortic stenosis with a surface area of 0.5m<sup>2</sup>, a mean transaortic gradient of 45 mmHg, left ventricular hypertrophy, and an ejection fraction estimated at 50%. In the operating room, monitoring was standard and non-invasive. The technique consisted of placing the patient in a sitting position, the catheter was introduced into the intrathecal space at the level of the L3-L4 space allowing the injection of 1.5 ml of a mixture of isobaric bupivacaine at 0.5 % 15mg and 50 microgrammes of fentanyl (Or 5.625 mg of bupivacaine and 18.75 microgrammes of fentanyl). Five minutes later, the sensory block reached T9. A reinjection of 0.5 ml of the mixture was necessary after 60 minutes. During the intervention (90 minutes) hemodynamics were stable. At the end of surgery, the patient's blood pressure was 115/75

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mm Hg and pulse was 96 bpm; the patient was conscious without pain, he was observed for 24 hours in the intensive care unit.

### **Discussion:-**

This case report demonstrates that Continuous Spinal Anesthesia with low doses of hyperbaric bupivacaine may be safe and effective for prostate surgery in a patient with aortic stenosis.

Patients undergoing hip replacement surgery are usually elderly. These patients have increased morbidity and mortality for urologic surgery due to co-morbidities, such as cerebral, cardiac, renal and respiratory diseases (3, 5). Regional anaesthesia techniques are usually preferred in high-risk patients due to some advantages, such as the maintenance of cardiovascular stability (5). Continuous spinal anaesthesia was preferred in this present case. It allows the administration of local anaesthetics in small incremental doses titrated to the patient's requirements, has minimal cardiovascular and respiratory side effects and provides postoperative analgesia, allowing the application of intrathecal local anaesthetics postoperatively (7). During surgery and the procedure of CSA, hypotension and bradycardia may be observed due to a reduction in systemic vascular resistance and central venous pressure caused by sympathetic blockade (4). In this present case, we did not observe hypotension or bradycardia during the anaesthesia and surgery procedure. In this presented high-risk patient, continuous spinal anaesthesia was applied using an epidural anaesthesia kit, and no major complications or puncture headaches were observed.

### **Conclusion:-**

We reported the successful anaesthetic management of a patient with high cardiac risk undergoing prostate surgery. Continuous spinal anaesthesia technique with low-dose hyperbaric bupivacaine provided safe and effective anaesthesia with minimal haemodynamic changes for hip fracture surgery in this present case.

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