

Challenging the Dogma: Low-Dose Spinal Anesthesia in Moderate-to-Severe Aortic Stenosis

Haris Sulejmani¹, Aleksandra Gavrilovska Brzanov², Gentijana Lika²

¹ Faculty of Medicine, Ss. Cyril and Methodius University, Skopje, North Macedonia

² University Clinic for Traumatology, Orthopedic Disease, Anesthesiology, Reanimation and Intensive Care Medicine and Emergency Department, Faculty of Medicine, Ss. Cyril and Methodius University, Skopje, North Macedonia

(Corresponding Author: Haris Sulejmani, sulejmani.haris@hotmail.com)

Citation: Sulejmani, H., Gavrilovska Brzanov, A., & Lika, G. (2026). Challenging the dogma: Low-dose spinal anesthesia in moderate-to-severe aortic stenosis. *International Journal of Health Supplements*, 1(Suppl. 3), 310–311. <https://doi.org/10.82051/ijhs-2026-Suppl.3>

Introduction. Neuraxial anesthesia in patients with aortic stenosis (AS) remains challenging because sympathetic blockade may precipitate hypotension and compromise coronary perfusion. Evidence regarding low-dose spinal anesthesia in this high-risk population remains limited. This study aimed to evaluate perioperative hemodynamic stability and early outcomes in patients with moderate-to-severe AS undergoing transurethral prostate surgery under low-dose spinal anesthesia.

Methods. This retrospective study included 22 patients with echocardiographically documented moderate or severe AS undergoing transurethral prostate surgery. All received spinal anesthesia with 0.5% hyperbaric bupivacaine supplemented with 10 µg intrathecal fentanyl, followed by 10 minutes in the sitting position. Hemodynamic stability and early postoperative outcomes were assessed. Intraoperative hypotension was defined as a $\geq 20\%$ reduction in systolic blood pressure (SBP) from baseline.

Results. Mean age was 71.8 ± 10.4 years; 86.4% were ASA physical status III and 77.3% had severe AS. Mean left ventricular ejection fraction was $44.9 \pm 8.5\%$, and mean bupivacaine dose was 6.8 ± 0.8 mg. Baseline SBP was 149.5 ± 11.5 mmHg, decreasing to 129.4 ± 12.7 mmHg intraoperatively. Six patients (27.3%) experienced $\geq 20\%$ SBP reductions, while none experienced profound hypotension. Patients with ≥ 2 cardiovascular/metabolic comorbidities experienced hypotension more frequently (83.3% vs 6.3%; $p=0.001$). Vasopressors were required in four patients (18.2%), all with ≥ 2 comorbidities ($p=0.002$). No bradycardia, major intraoperative complications, or postoperative ICU admissions occurred.

Discussion. Low-dose spinal anesthesia was associated with preserved hemodynamic stability without major perioperative complications. Greater comorbidity burden was associated with increased hemodynamic vulnerability, highlighting the importance of individualized perioperative risk assessment. Larger prospective studies are warranted.

Keywords: Aortic Stenosis, Spinal Anesthesia, Hemodynamic Stability, Hypotension, Comorbidity, Perioperative Cardiovascular Risk

© The Author(s) 2026. This abstract is published by iEditore and distributed under the terms of the [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](#).

Funding: This research received no external funding. **Conflict of Interest:** The authors declare no conflict of interest.