

Spinal and Epidural Anesthesia in Perioperative Care: Balancing Risks and Clinical Outcomes

Mraovic Broius*

Department of Anesthesiology, Thomas Jefferson University, California, USA

DESCRIPTION

Spinal and epidural anesthesia are commonly used techniques in perioperative settings, though they can contribute to nerve injuries. However, severe or long-lasting neurological complications remain rare. The risk of neurologic deficits following neuraxial anesthesia is influenced by several factors, including spinal cord ischemia, damage to the spinal cord or nerve roots during needle or catheter placement. Additionally, surgical trauma, improper positioning of patients and pressure exerted by surgical dressings or post-operative care can lead to nerve damage, which is sometimes incorrectly attributed to the anesthesia itself.

For short surgeries, typically lasting less than four hours or for patients at high risk, single-dose spinal anesthesia is often the preferred option. It is commonly used in surgeries involving the lumbar spine, particularly for degenerative spinal conditions. Spinal anesthesia also provides advantages in surgeries on the spinal cord or spinal column, as long as the expected surgery duration aligns with the limits of spinal anesthesia. While spinal anesthesia is not generally reported as the sole anesthetic for spinal tumor surgeries, it is sometimes employed for patients with comorbidities, a high risk for general anesthesia or other complicating factors.

Patients with high American Society of Anesthesiologists (ASA) scores, elderly individuals or those suffering from metastases are often considered good candidates for spinal anesthesia during spinal tumor surgeries. However, there is limited data on the outcomes of spinal anesthesia in these specific surgical procedures. When patients with lumbar spinal tumors and a high ASA score (class 3 or 4) face increased risks with general anesthesia, spinal anesthesia may be a more suitable option. Studies suggest that there is no significant difference between spinal and general anesthesia in terms of their applicability, provided that the surgery remains within the duration suited for spinal anesthesia. Additionally, study has shown that spinal

anesthesia is associated with fewer complications compared to general anesthesia.

In one study, the core body temperature of volunteers was monitored using a distal esophageal probe. In two cases, the probe was not suitable and instead, the tympanic membrane was used for temperature measurement with Mon-a-Therm thermocouples. The temperature readings from both the tympanic membrane and distal esophageal probe were nearly identical. Furthermore, energy expenditure was assessed through oxygen consumption and carbon dioxide production using a calibrated metabolic monitor. Heat flux and skin temperature were measured at 15 different skin-surface locations using thermal flux transducers.

CONCLUSION

To summarize, while spinal and epidural anesthesia do carry certain risks of perioperative nerve injuries, serious neurological complications remain rare. Factors such as spinal cord ischemia, needle or catheter-induced trauma, infections and improper patient positioning can increase the likelihood of neurological deficits, though these issues are often mistakenly linked to the anesthesia itself. Spinal anesthesia is generally preferred for shorter surgeries or patients who are at a high risk for complications, particularly in procedures involving the lumbar spine and spinal column. Although there is limited study on spinal anesthesia in the context of spinal tumor surgeries, it remains a viable option for patients with high comorbidities or risks associated with general anesthesia. Study indicates that spinal anesthesia is associated with fewer complications when the surgery falls within a suitable time frame. More studies are needed to analyze the outcomes of spinal anesthesia in specific surgical procedures, particularly in spinal tumor surgeries. When properly applied, spinal anesthesia remains a valuable tool with minimal associated risks.

Correspondence to: Mraovic Broius, Department of Anesthesiology, Thomas Jefferson University, California, USA, E-mail: broius@mraov.ic.com

Received: 27-Sep-2024, Manuscript No. JACR-24-35740; **Editor assigned:** 30-Sep-2024, PreQC No. JACR-24-35740 (PQ); **Reviewed:** 14-Oct-2024, QC No. JACR-24-35740; **Revised:** 21-Oct-2024, Manuscript No. JACR-24-35740 (R); **Published:** 28-Oct-2024, DOI: 10.35248/2155-6148.24.15.1159

Citation: Broius M (2024). Spinal and Epidural Anesthesia in Perioperative Care: Balancing Risks and Clinical Outcomes. J Anesth Clin Res. 15:1159.

Copyright: © 2024 Broius M. 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.