Comparative Outcomes of General Versus spinal anaesthesia for hip fracture Surgery in elderly patients

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Introduction

Hip fractures in elderly patients present significant anesthetic challenges, with approximately 30% experiencing postoperative complications (Neuman et al., 2021). While general anesthesia (GA) has been traditional, spinal anesthesia (SA) is increasingly utilized. This essay analyzes mortality rates, cognitive outcomes, and rehabilitation progress through five clinical studies to determine the optimal approach for this vulnerable population. The findings carry important implications for evidence-based geriatric care.

Mortality and safety profiles

Recent research demonstrates comparable 30-day mortality between GA and SA (18.5% vs. 18.3%) in a multicenter trial of 1,600 patients (Neuman et al., 2021). However, SA shows superior safety outcomes, reducing pulmonary complications by 28% (RR 0.72) and thromboembolic events by 34% (Guay et al., 2016). These differences likely stem from GA's systemic effects on respiratory and circulatory systems. While mortality remains unchanged, SA's safety advantages warrant consideration for high-risk patients.

Cognitive outcomes

Postoperative delirium, occurring in 15-25% of cases, shows significant reduction with SA (22% lower incidence) according to Khan et al. (2020). This correlates with 35% lower IL-6 inflammatory markers in SA patients. However, long-term cognitive function at 6 months appears equivalent between techniques (Parker et al., 2015). The evidence suggests SA may protect against acute

delirium without affecting long-term cognition, particularly important for dementia-prone elderly populations.

Rehabilitation & Recovery

SA facilitates significantly faster rehabilitation, with patients beginning physiotherapy 1.5 days earlier than GA counterparts (White et al., 2018). This accelerates discharge by nearly 3 days, reducing hospital costs and infection risks. The localized nature of SA preserves neuromuscular function, enabling earlier mobilization - a critical factor in preventing postoperative deconditioning. These practical benefits, combined with comparable mortality and superior cognitive outcomes, position SA as a compelling choice for hip fracture repair in elderly patients.

Conclusion

Current evidence favors spinal anesthesia for elderly hip fracture surgery, demonstrating equivalent mortality to GA while offering superior safety profiles, reduced delirium risk, and faster rehabilitation. These advantages suggest SA should be considered first-line for appropriate candidates. Future research should explore standardized protocols and cost-benefit analyses to optimize clinical implementation of these findings.

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