

Safest Anesthetic Technique for Hip Fractures in Elderly



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Background

There is high incidence of perioperative complications in hip surgeries after femoral neck fractures in older age group.

Objective

In this review, we try to detect the safest anesthetic technique for those patients.

Introduction

Hip fracture is a worldwide problem affecting 1.6million and will affect 2.6 annually by 2025 [1].Hip fractures are associated with high risk of morbidity and mortality, approximately 1-6% of patients will die during their hospital stay [2-4], 4-10% will die with in 30 days of their admission [5], and 18%- 28% of the patients die with in one year of their fractures [6] this is mainly due to pulmonary and cardiovascular complications [7]. Postoperative delirium is a frequent complication in elderly patients with hip fractures and the incidence is varying between 16% and 62% [8]. Patients with femoral neck fracture can experience delirium three times more than patients undergoing non orthopedic surgery [9]. Postoperative delirium is associated with high morbidity and mortality and prolonged hospitalization with subsequent increased suffering and cost [10]. There are many risk factors associated with postoperative morbidity and mortality in such age group of patients. Adequate preoperative treatment of respiratory problems (COPD, asthma) and prevention of postoperative cardiovascular complications (hypotension, hypertension, arrhythmia, ischemia, heart failure) may be the most important factor in reducing postoperative mortality after hip fracture surgery [11]. Cardiovascular, respiratory and neurological complications are well correlated to age, preoperative bedridden state, neurological comorbidities, preoperative delirium, and frequent intraoperative hypotension.

Anesthesia type

The influence of anesthesia type on mortality and morbidity in hip fracture surgery is certainly a controversial issue in the literature. Regional anesthesia has significantly reduced incidences of deep venous thrombosis, surgical site infection, pulmonary complications, and amount of blood loss. General anesthesia has a lower incidence of hypotension and cerebrovascular accidents [12]. A retrospective cohort study based on a nation wide sample of hospital admissions found that, there was no significant difference in risk of mortality with type of anesthesia in patients undergoing hip fracture surgery [13]. Regarding thirty days mortality another study found that, spinal anesthesia was associated with significantly lower incidence of thirty days complications than general anesthesia in hip fracture surgery [14]. Liu et al. [15] found that there was no significant difference in post-operative mortality and complications between general anesthesia and peripheral nerve blocks in these cases [15]. Jin et al. [16] found that there was no significant difference between peripheral nerve blocks and epidural anesthesia in hip fracture surgery regarding postoperative mortality and complications [16]. Continuous spinal anesthesia and ultrasound guided combined psoas compartment-sciatic nerve block (PCSNB) produced satisfactory quality of anesthesia in elderly high risk patients of hip replacement surgery but hemodynamic changes were fewer in us guided PCSNB [17].

Conclusion

A variety of appropriate anesthetic techniques can be used according to the patient individual condition regarding patient choice, comorbidities, psychological

make up, anesthetist previous experience, surgical procedure, hospital facilities including funds available and postoperative care.

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