

# Clinical Research Progress on the Effect of Different Anesthesia Methods on the Prognosis of Elderly Hip Fractures

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**Abstract:** Hip fracture will have a great impact on the life of the patient. The treatment and recovery of hip fracture is an extremely long process. In the early treatment stage, the patient will feel a strong sense of pain. Hip fractures are the most common in the elderly, and the elderly are often accompanied by osteoporosis, and there is a risk of fracture when exposed to mild external forces in daily life <sup>[1]</sup>. Surgical treatment is most common in elderly patients with hip fractures. In order to reduce the pain of the patient, anesthesia is usually given to the patient. Anesthesia is divided into general anesthesia and local anesthesia, both of which can reduce the pain of the patient and improve the cooperation degree of the operation. Under general anesthesia, the patient is basically in a state of unconsciousness without any consciousness. General anesthesia is generally achieved by intravenous injection of anesthetic drugs or inhalation of gas, and local anesthesia is achieved by intrathecal or epidural injection of anesthetic drugs <sup>[2]</sup>. Studies have shown that these two anesthesia methods have been widely used in orthopedic surgery, and have achieved good results. However, the choice of anesthesia methods for elderly patients with hip fractures is still controversial. This article reviews the research progress on the effects of different anesthesia methods on the prognosis of elderly hip fractures by reviewing relevant literature.

**Keywords:** Different Types of Anesthesia; Elderly Hip Fracture; Prognostic Impact; Clinical Research Progress

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## Introduction

Hip fractures are a common phenomenon among the elderly. Some violent behaviors in daily life may lead to hip fractures. Hip fractures will not only bring pain to elderly patients, but even lead to limb deformities in severe cases, posing a huge threat to the life and health of elderly patients. At present, the most common way to treat hip fractures in the elderly is surgical reduction. The success of the surgery directly affects whether the patient can recover. In addition, the implementation of anesthesia during surgery has a great impact on the patient's surgical results. Studies have shown that the choice of anesthesia methods during surgery is closely related to the recovery status of patients after surgery. Choosing the correct anesthesia method can make the operation more effective, reduce the short-term mortality and the probability of postoperative complications. In this paper, the relevant literature is reviewed, and the research on the effect of different anesthesia methods on the prognosis of elderly hip fractures is reviewed and summarized from multiple perspectives.

## 1. Operation time

The operation time of hip fracture reduction operation in the elderly refers to the time from skin incision to skin suture. There is some controversy about whether the choice of different anesthesia methods during the operation affects the length of operation time. By reviewing the literature, it was found that some studies reported that there was no necessary relationship between the choice of anesthesia method and the length of operation, but there were also some studies that reported that the operation time of patients who chose local anesthesia was shorter than that of patients who chose general anesthesia. From the perspective of clinical effect, although the time used for local anesthesia and general anesthesia may be slightly different, the choice of anesthesia method is not enough to be an inevitable factor affecting the operation time. But this point of view also needs to be further research and consideration.

## **2. Complications**

### **2.1 Arrhythmia**

Arrhythmia is one of the common postoperative complications in elderly patients with hip fractures. Postoperative arrhythmias are generally classified into two types: tachyarrhythmias and bradyarrhythmias. There is no clear conclusion in the current research on the relationship between arrhythmia and the choice of anesthesia in elderly patients with hip fracture. The patient's arrhythmia after surgery is affected by a combination of many factors. In addition to the use of anesthetics, it is also affected by factors such as electrolyte imbalance, hypoxia, and acid-base balance. In conclusion, arrhythmia is relatively common in elderly patients with hip fractures. When such symptoms occur, patients should not panic and inform their physicians in time.

### **2.2 Postoperative pain**

Elderly hip fracture patients experience some degree of pain after surgery, and the degree of pain varies from person to person. From a medical point of view, it is the subjective discomfort that the human body feels physiologically after being stimulated by external injuries or internal diseases. Anesthesia is one of the main causes of postoperative pain in elderly patients with hip fractures. General anesthesia and local anesthesia have different effects on postoperative pain. Studies have shown that 20%-70% of hip fracture patients suffer from moderate or higher pain levels after surgery. Among them, there are relevant literatures showing that patients with general anesthesia have more obvious pain one hour after the operation, and local anesthesia can still block the local nerves for a period of time after the operation <sup>[3]</sup>. Therefore, from this point of view, local anesthesia is better than general anesthesia in reducing postoperative pain in patients. However, some relevant experts believe that there is no obvious difference between the effects of general anesthesia and local anesthesia in terms of the long-term effect of alleviating pain. In a word, no matter what kind of anesthesia method the patient adopts, if they feel severe pain after surgery, they should seek the help of the doctor in time. Otherwise, other complications may occur, which will affect the recovery process.

### **2.3 Hypoxemia**

Some elderly patients with hip fractures have bad habits such as smoking and alcoholism, and some patients have a history of other cardiopulmonary disorders. These factors greatly increase the probability of postoperative hypoxemia. If hypoxemia is not treated in time, it will seriously threaten the life and health of patients. Relevant studies have shown that the physical function of elderly patients is degraded, and the body resistance ratio is relatively weak. When the patient's hypoxemia is severe, there will be adverse symptoms such as dyspnea and myocardial ischemia, and the patient is at risk of death. Therefore, it is also very important to study the relationship between different anesthesia methods and the probability of hypoxemia in patients. Relevant literature reports that patients who choose local anesthesia for surgery are less likely to have hypoxemia, because local anesthesia does not require endotracheal intubation, and patients will not have generalized muscle relaxation. However, there are also some related studies that have reached the opposite point of view, that is, the probability of hypoxemia in patients with general anesthesia is relatively low, but from the long-term results after surgery, the difference between the two anesthesia methods on the probability of hypoxemia complicated by patients is minimal. <sup>[4]</sup>

## **3. Living ability and quality of life of postoperative patients**

For elderly patients, whether they have the ability to live independently after surgery and the quality of life after surgery are important criteria to test the effect of surgery. Studies have shown that less than one-third of elderly patients with hip fractures can return to their previous living conditions within one year after surgery <sup>[5]</sup>. For the recovery of the patient's living ability within a short period of time after the operation, in this aspect, the patients with local anesthesia are obviously more advantageous. The patients with local anesthesia can recover their independent living ability after systematic functional recovery exercises within a period of time after the operation. faster. However, in the long term, patients under general

anesthesia also regain the ability to live independently after a prolonged period of functional recovery exercises. Therefore, in the long term, different anesthesia methods are not decisive for the recovery of patients' independent living ability after surgery. The recovery of the patient's ability to live independently is hampered by various objective and subjective factors, such as age, living habits, the presence or absence of other medical history, their own psychological state, and family companionship.

## 4. Conclusion

All in all, the adverse prognostic reactions of elderly patients with hip fracture include arrhythmia, postoperative pain, hypoxemia, etc. The recovery of patients' independent living ability and quality of life after surgery are also important manifestations of patients' prognosis and recovery. However, the relationship between general anesthesia and local anesthesia and these prognostic conditions has not been definitively concluded in the current research, and relevant scholars and experts have different research results and conclusions. Therefore, the topic of the effect of different anesthesia methods on the prognosis of elderly hip fractures still has a very high clinical research value, and the future research has broad prospects.

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