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# Mechanism Research and Rehabilitation of Shoulder Pain after Stroke

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Abstract: In recent years, China's medical causes developed very fast, the mechanism of many diseases has been studied more deeply, and the effect of the treatment of many diseases is improved continuously, which mainly benefits from the attention of the country and the development of China's economy and society. These favorable factors provide convenient conditions for the development of medical causes. In this case, the level of treatment and rehabilitation of stroke disease has been significantly improved, the treatment efficiency of the disease has been improved, and the possibility of complications has been reduced. Shoulder pain is a major complication after stroke, and its incidence is between 20% and 70%. Once this complication occurs, it will reduce the quality of life of patients and increase the difficulty of disease treatment. This article mainly discusses the pathogenesis and rehabilitation treatment of shoulder pain after stroke.

Keywords: Post-stroke shoulder pain; Mechanism study; Rehabilitation treatment

Stroke is a kind of acute cardiovascular and cerebrovascular disease, which has a great negative impact on patients. Moreover, the disease has a high mortality rate and a high incidence rate and is prone to many complications. Some survey results show that the disease has become the first cause of death in China, so we need to pay more attention to the treatment and prognosis. However, in terms of the current treatment, the treatment method is not perfect, in this case, it is necessary to do a good job<sup>[1]</sup> in the prevention of the disease. Of course, after suffering from the disease, it is also necessary to do a good job of prognosis, to reduce the negative impact of risk factors on patients and avoid aggravating the condition, which is unfavorable to patients.

## 1. Mechanisms of shoulder pain after stroke

Shoulder pain is one of the major complications of the disease, which usually occurs between 2 and 3 months after stroke. After the occurrence of this complication, the patient will have a tender condition of the biceps brachii muscle, and the pain will occur during rest or exercise. This will have a very negative impact on the patient's psychology and reduce the efficiency of disease treatment. In severe cases, depression and other conditions will occur. The main mechanism of shoulder pain is as follows:

# 1.1 Shoulder joint dislocation

Shoulder joint dislocation can cause shoulder pain, and shoulder joint dislocation is very common in stroke patients. Data surveys show that more than 90% of severely paralyzed patients have shoulder subluxation, so after 2 months of stroke, shoulder pain and other conditions will appear. In addition, shoulder subluxation often occurs in the retardation period of hemiplegia, during which the muscle tension around the shoulder joint decreases and the traction mechanism of the joint head is lost, which will make the humeral head subluxate and cause strong stimulation of the nerve of the shoulder joint capsule, causing strong pain in patients.

# 1.2 Incorrect body position

Many stroke patients have an insufficient understanding of the disease, and many times they will have incorrect posture, which will aggravate the harm to the affected limb and increase the possibility of shoulder pain. In addition, many patients and their families have an insufficient understanding of the shoulder brachial rhythm. When they take care of patients and move, they will cause negative damage to the patient's limbs and shoulder joints, and the aggravation of the injury will cause inflammation of the shoulder joint, which will lead to shoulder pain in patients. On the other hand, the occurrence of shoulder pain also has a great relationship with external factors, such as cold and humid weather, in such an environment, it will increase the possibility of inflammation, causing shoulder pain.

## 1.3 Shoulder-hand syndrome

Reflex sympathetic dystrophy, a condition that causes shoulder pain, affects more than 20% of stroke survivors. The main cause of this problem is early improper exercise, which causes certain damage to the shoulder joint and wrist joint, resulting in body fluid reflux and dam-

age to the central nerve. In the occurrence of reflex sympathetic dystrophy syndrome, it will lead to edema around the wrist and scapula, causing pain, through the peripheral nerve to the bone marrow, so that there will be abnormal vasomotor conditions, a vicious circle.

Of course, there are many mechanisms of shoulder pain after stroke, and several aspects of them are not fully discussed. In this case, the hospital must do a good job in the prevention of shoulder pain after stroke to reduce the possibility of complications.

# 2. Rehabilitation treatment of shoulder pain after stroke

#### 2.1 To educate the patient about the disease

Many stroke patients do not have a comprehensive understanding of the disease and lack of basic common sense. In this case, medical staff must explain this knowledge to patients, especially the reasonable exercise time and daily precautions, to improve the patient's understanding of the disease. It is necessary to do a better job in the prevention and prognosis of the disease, reduce the probability of complications, reduce the incidence of shoulder pain, improve the efficiency of treatment, speed up the recovery of the disease, and reduce the harm of the disease to patients. When explaining the knowledge of the disease, it is necessary to communicate with the patient more, understand the patient's disease recovery in time, and then solve the corresponding problems according to the patient's problems, to improve the treatment efficiency. When communicating with patients, we should pay attention to the attitude and tone of speaking, and eliminate the negative psychology of patients with their own words as much as possible, so that patients can better cooperate with treatment and enhance patients' treatment confidence [2].

### 2.2 Correct body position

Correct posture is very important for the prevention of complications, such as pressure ulcers and other hospitalization complications, and it also has a great effect on the prevention of shoulder pain. Therefore, during hospitalization, it is necessary to reduce the movement of the patient and encourage the patient to actively cooperate with the medical staff's active assistance activities, to relieve the pressure of the affected limb, reduce the flexor tension of the affected upper limb, and reduce the possibility of shoulder pain.

#### 2.3 Use shoulder slings

Shoulder slings can be used to correct shoulder dislocations and provide protection when the patient is moving or standing. However, the shoulder strap should not be used for a long time, otherwise it will produce dependence. When the muscle tone of the shoulder joint is restored, it is necessary to stop using the shoulder strap, to maximize the effect of the shoulder strap.

#### 2.4 Physical therapy

In the treatment of shoulder pain, physical therapy can be used, such as heat therapy, electromagnetic therapy, etc., these methods can reduce muscle tension and nerve stimulation, relieve the pain of patients, and have a great effect on the treatment of the disease. Electromagnetic therapy has an analgesic function while promoting blood circulation speed, suitable for the treatment of hemiplegic shoulder pain, it can promote venous return, swelling, and pain relief. Therefore, for patients with shoulder pain, physical therapy can be used for the treatment of the disease. Of course, the specific method needs to be selected according to the actual situation of the patient, to improve the treatment efficiency, which is very beneficial to the patient. In addition, functional electrical stimulation can also be used for treatment. Electrical stimulation can improve the patient's motor control ability, activate muscles and nerve fibers, and relieve the patient's pain<sup>[3]</sup>.

### 2.5 Medical treatment

Many drugs have obvious therapeutic effects on shoulder pain, such as anti-inflammatory drugs, analgesics, etc., and with the continuous improvement of the medical level, many drugs have small negative effects and obvious therapeutic effects, so when shoulder pain diseases occur, drugs can be used for treatment. In the treatment of shoulder pain, oral corticosteroids can be taken for 10 days. The therapeutic effect on many patients is obvious, and it will also improve the muscle tension of the patient, but it has a certain negative impact on the patient's cognition, so it needs to be used with caution. Drug therapy needs to be based on the actual situation of the patient, such as age, other diseases, and other factors for comprehensive analysis, and then make the corresponding choice.

#### 2.6 Surgical treatment

If conservative treatment does not work, surgery is needed so that the patient can feel less pain. Shoulder pain has a very negative impact on patients, and it needs to be treated as soon as possible to reduce the risk of treatment. The main purpose of surgery is to improve the speed of functional recovery of patients, which can reduce the risk factors<sup>[4]</sup> of surgery. Of course, when operating, it is necessary to inform the patients about the precautions and other contents, so that the patients and their families can prepare accordingly, to speed up the progress of the operation. Psychological comfort should also be given to patients during the operation, to eliminate the psychological pressure of patients and make patients cooperate better.



# 3. Conclusion

In general, shoulder pain is one of the complications that are easy to occur in the treatment of stroke. It is necessary to do a good job in prevention, reduce the probability of occurrence, and improve the quality of life of patients. Therefore, in the treatment of stroke, we should do a good job in the prevention of complications, do a good job in nursing work, and comprehensively prevent stroke complications, to improve the recovery rate of the disease and reduce the impact of negative factors on patients. Of course, with the development and progress of The Times, there will be more methods in the treatment of diseases and the prevention of complications, which requires the hospital to draw lessons from its actual situation to improve the treatment level of the hospital. At the end of this article, it is hoped that it can be used as a reference for the prevention of shoulder pain after stroke.

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