

LETTER TO THE EDITOR

Based on Eco-environment the Treatment of Intra-Knee Fracture of Martial Arts Athletes

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Eco-environment in the treatment of intra-knee fracture of martial arts athletes, and provide valuable guidance for clinical treatment. All cases were martial arts athletes who were randomly grouped into study group and reference group, each with 90 cases. Where, the reference group underwent traditional open reduction internal fixation treatment, and the study group underwent Eco-environment. Treatment outcomes were compared between the two groups. Eco-environment in the treatment of intra-knee fracture of martial arts athletes, which can significantly reduce the complication rate with obvious effect.

I Introduction

Xiaolei Peng, Qingwu Zhang published “Influence Factors and Improvement Suggestions of Chinese Wushu Communication in Chinese Martial Arts” on Issue 107, Pages: 2755-2760, Article No: e107306, Year: 2019, in the article, As international exchange is frequent day by day, cultural exchange among countries has also been increasing. As one of representatives in Chinese traditional culture, martial arts communication is the key to China and international cultural exchange. The paper comprehensive utilizes comparative analysis approach and variation method, learns Chinese martial arts communication current status through analyzing previous world martial arts championships competing situations and Chinese martial arts communication influence factors. Make analysis from previous martial arts championships competing countries amount and athletes amount these two aspects, through comparing the two-intensity relative number, and then get the conclusion. It establishes reliability model-based martial arts communication influence factors model, makes reliability evaluation on Chinese martial arts communication influential static results. It gets conclusion that on a whole, amount of world martial arts championships participated countries and athletes have been increasing, occasionally declining trend appeared in some sessions, but such phenomena were eased in next session, propaganda is the main factor that affects Chinese martial arts communication, next is lacking of professional martial arts teachers guiding and international exchange. Therefore, martial arts communication and inheritance is a dynamic process that should strengthen propaganda and government support on martial arts cultural communication.

Human knee joint has relatively complicated structure, which plays a very critical role in the stability and weight bearing of the lower limbs of the human body (Xie et al. 2017). The knee joint consists of the medial and lateral condyle of the femur, the medial and lateral condyle of the tibia and patella, which also belongs to the joint of the trochlear. Intra-knee fracture, a common type of fracture in clinical diagnosis, will cause different levels of effect on the normal quality of life of the patient. Once not timely treated, it will increase complication rate, or

cause disability (Zeng et al. 2017). Surgical measures are the main treatment regimen for the disease. The traditional open reduction in the treatment of intra-articular fractures has the risk of secondary injury on the one hand, and can easily cause traumatic joint function loss, arthritis and joint instability on the other hand (Qiu 2018).

In recent years, Eco-environment has been widely applied as New Therapeutic Techniques model. This study was the curative effect of Treatment of Knee Joint Fracture in Wushu Athletes under Ecological Environment, with report contents as follows (shown in Figure 1 below)



Fig 1. Intra-knee fracture

II Data and methods

This study was conducted in 180 patients (martial arts athletes) with intra-knee fracture who were treated in our hospital. The time range was from June 2015 to October 2018. The patient's imaging examination picture is shown in Figure 2 below. The content of this study was approved by the Hospital Ethics Association, and patients and their families enjoyed the right to know the study and signed the formal informed consent form formulated by the hospital. By randomized grouping model, the patients were divided into study and reference groups, each with 90 patients. In the study group, there were 60 males and 30 females, aged between 20 and 33 (28.9 ± 3.1) years old; in the reference group, there were 58 males and 32 females, aged between 22 and 32 (28.6 ± 3.9) years old. Comparison of the data of the two groups has comparability, $p > 0.05$.



Fig 2. Imaging picture of a patient with intra-knee fracture

The patients in the reference group were treated with open reduction internal fixation. The patients maintained a correct and comfortable supine position and received combined spinal and epidural analgesia. A long incision was made on the lower part of the patella while ensuring that the lower pole and the patellar ligament stop point were exposed, and the length was between 10-12 mm. The surrounding tissue was bluntly separated, and then reduction operation was performed. According to the fracture shape of the patient, corresponding internal fixation operation was conducted (Zhang 2018). Kirschner wire could be used for strict fixation. If the patient has ligament or meniscus injury, repair procedure must be performed (Wang et al. 2016).

The Eco-environmental therapy in the study group in the study group patients. The patients maintained a correct and comfortable supine position for epidural anesthesia, air pressure tourniquet was performed on the leg end, and the pressure was controlled within 350-400 mm Hg. The arthroscope was inserted via conventional approach, and close observation was made under arthroscopic guidance. If the patient has patellar fracture, B-type fracture of tibial plateau, or femoral condyle fracture, reduction fixation should be performed by drilling in the vertical region of the fracture line, and internal fixation should be performed by lag screw. If the patient has a C-type fracture of the tibial plateau, extra-articular reduction fixation should be implemented. There is no necessity to cut the joint capsule. Under arthroscopic assistance, the plate screw was inserted, followed by strict internal fixation (Xing 2016). After the operation, plaster fixation was performed, and stepwise joint function exercise was implemented according to the state of postoperative recovery.

III Results

As shown in Table 1 below, comparison of the overall excellent rate between the two groups shows significant advantage of the study group over the reference group, $p < 0.05$, statistically significant.

Table 1. Comparison of overall excellent rates between the two groups [n (%)]

Group	Excellent	Good	Acceptable	Poor	Excellent rate
Study group (n=90)	60	24	3	3	84 (93.33)
Reference group (n=90)	45	25	10	10	70 (77.78)
X ²					9.62
p					<0.05

IV Discussion

Traditional surgical treatment for patients with intra-articular fractures generally requires extensive stripping of periosteum and soft tissue (Basdas et al. 2018). Under necessary conditions, the joint capsule needs to be cut to receive optimal surgical results. In this way, on the one hand, it will improve rates of wound infection, delayed healing and intra-articular hematoma. On the other hand, it will also cause a certain impact on early recovery of postoperative joint function, thus making patients miss the best time for exercise. With the continuous development of medical technology, arthroscopy has been widely used in clinical diagnosis and adjuvant therapy, which not only helps doctors to reduce the surgical incision, but also makes the patient's intra-articular injuries of knee more clearly and detailed observed. Meanwhile, it will correspondingly reduce the operation time and effectively lower secondary injury rate.

During arthroscopic guided minimally invasive internal fixation for patients with intra-knee fracture, small percutaneous incision can be made with minimal injury, bone fracture plate is extraperiosteally inserted, and screws are tightly fixed to achieve indirect reduction. After steady state for fracture reduction and fixation is sufficiently clear, the precondition for fracture healing is guaranteed good blood flow supply. This treatment mode is consistent with the biological protection and fixation concept on bone growth and development environment. In addition, related research indicates that, minimally invasive internal fixation can minimize surgical bleeding amount and surgical trauma, reduce postoperative recovery time, and promote bone healing as soon as possible, reduce bone mass and bone-formation factor loss and effectively increase callus growth rate. The results of this study show that after the study group patients underwent arthroscopic guided minimally invasive internal fixation, its overall treatment efficiency is significantly higher than that of the reference group using traditional open reduction internal fixation, and the former has lower complication rate and higher safety and reliability.

V Conclusion

With the continuous advancement and development of medical industry, Eco-environmental therapy has been widely used in treatment of clinical orthopedic diseases, which especially carries great significance for the recovery of patients' knee function. Capable of improving quality of life of patients, the technical method is gradually mature and popular in the treatment of intra-articular injuries of knee. Martial arts athletes who have relatively special occupation are high-risk group of intra-articular injuries of knee, and Eco-environmental Therapy is the preferred scheme. Minimally invasive surgery with small incision has many application advantages, with fast postoperative incision healing and fewer probabilities of hematoma, skin necrosis and incision infection. The assisted effect of knee arthroscopy enables accurate observation of the patient's articular surface reduction state, which can better eliminate joint hematoma. This minimally invasive surgery can prevent cutting of joint capsule, thereby reducing

postoperative knee joint adhesion rate and enabling early rehabilitation function training. In summary, Eco-environmental Therapy with intra-knee fracture can effectively improve postoperative knee function and enhance excellent rate of treatment, which is worthy of popularization and application.

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