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LETTER TO THE EDITOR

The Therapeutic Effect of Rehabilitation Mode of Aerobic Exercise on Weightlifters after Elbow Fracture Surgery

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To observe and analyze the curative effect of Rehabilitation mode of aerobic exercise on after on weightlifters after elbow fracture surgery.200 weightlifters with elbow fracture who had been treated in our hospital from June 2015 to June 2018 were selected as research objects. by observing and comparing the overall therapeutic effect of the two groups, the results showed that the excellent and good therapeutic rate in the Rehabilitation mode of aerobic exercise on group was higher than that of the delayed rehabilitation group, $p<0.05$. The ROM scores of elbow joints of the two groups were calculated, and all indicators in the Rehabilitation mode of aerobic exercise on group showed significant advantages, $p<0.05$. Rehabilitation mode of aerobic exercise on program after elbow fracture surgery for weightlifters can improve the treatment effect to the maximum extent and prevent various adverse problems, which is worthy of being popularized in clinics.

I Introduction

Xiaofeng Shi, Fei Wang published "Analysis of the Influencing Factors of Natural Ecosystem Maintenance on Promoting Outdoor Aerobic Exercise" on Issue 107, Pages: 3015-3026, Article No: e107338, Year: 2019, in the article, In order to improve the popularity of outdoor aerobic sports, to enhance the quality of outdoor aerobic sports, and to analyze the influencing factors of natural ecosystem maintenance on promoting outdoor aerobic sports, the ecosystem vulnerability function was established through three indicators of natural ecosystem exposure, sensitivity and adaptability, and the natural ecosystem was divided into slightly vulnerable and slightly vulnerable by using this function. Based on the evaluation results of each grade, the evaluation model of natural ecosystem was constructed. On this basis, the influence of outdoor aerobic exercise on the changes of human physiological indicators was studied, and the effect of maintaining natural ecosystem on promoting outdoor aerobic exercise was verified by the changes of human physiological indicators. The results showed that after two months of outdoor aerobic exercise in micro vulnerable, moderately vulnerable and extremely vulnerable natural eco-environment, the subjects had the best systolic pressure, diastolic pressure, heart rate, heart rate variability, hemoglobin value, humoral regulatory factors and lung function in slightly vulnerable natural eco-environment, indicating that the human body was in a slightly vulnerable state. The outdoor aerobic exercise under the system can improve the body indicators.

Elbow fracture is a common joint injury in clinic. According to relevant statistics, the incidence of elbow fracture is the highest among all joint injuries. The main measure for clinical treatment of elbow fracture is surgery

(Arslan et al. 2018). In order to effectively improve the success rate of surgical treatment, scientific rehabilitation measures should also be emphasized to promote better standard reduction and fixation of fracture parts (Feng et al. 2015).

Weight lifters usually have a intensive training in their daily routine, which can easily lead to elbow fracture. After elbow fracture (as shown in figure 1 below), abnormal bone anatomical morphology, joint soft tissue damage, intra-articular adhesion, and scar formation after joint capsule and periarticular soft tissue damage may occur, which greatly increase the incidence of joint rigidity and cause serious adverse effects on the normal quality of life of patients (Wu et al. 2016, Yu and Chen 2016). This paper observes and analyzes the curative effect of Rehabilitation mode of aerobic exercise on weightlifters after elbow fracture surgery, with the purpose of providing valuable reference for clinical treatment of elbow fracture.

Fig 1. Elbow fracture

II Materials and Method

200 weightlifters with elbow fracture who had been treated in our hospital from June 2015 to June 2018 were selected as research objects. All patients were treated with appropriate surgical procedures.

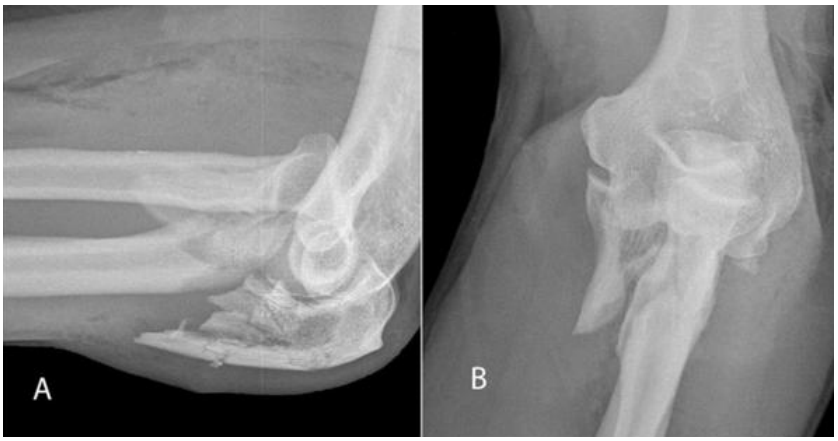

Fig 2. Imaging examination images of 1 patient

The recovery of elbow function was evaluated by Mayo scoring system (Xu et al. 2015), At the same time, the curative effect and functional disorder of elbow were compared between the two groups. The Mayo elbow function scoring system involves several indicators, such as pain, range of motion, joint stability and activity of daily living (ADL). The total score is 100. The higher the score is, the better the recovery effect is.

SPSS21.0 statistical analysis software was adopted to process data. The measurement data were expressed by means of mean ± average （±s）, with t test conducted for intergroup comparison. The enumeration data were expressed in terms of natural number (n) and percentage (%), with X2 for intergroup comparison. The intergroup difference was considered of statistical value when $p<0.05$.

III Results

As shown in table 1, the overall Mayo score of patients in the Rehabilitation mode of aerobic exercise on group was more advantageous compared with the delayed rehabilitation group, $p<0.05$.

Table 1. Comparison of Mayo scores between the two groups ($\bar{x} \pm s$)

Group	Pain	Range of motion	Joint stability	ADL	Total score
Early rehabilitation group (n=100)	45.20±2.35	20.36±0.94	10.02±0.17	26.89±2.20	98.60±2.15
Delayed rehabilitation group (n=100)	41.80±1.29	12.46±0.85	10.48±0.36	20.15±2.48	88.65±3.51
T	9.25	9.03	0.11	6.75	12.28
P	<0.05	<0.05	>0.05	<0.05	<0.05

As shown in table 2 below, by observing the rehabilitation treatment effect of two groups, it can be known that the overall excellent rate of the Rehabilitation mode of aerobic exercise on group was significantly superior to that of the delayed rehabilitation group, $p<0.05$.

Table 2. Comparison of rehabilitation effect between two groups of patients [n (%)]

Group	Excellent	Good	Acceptable	Poor	Good rate
Early rehabilitation group (n=100)	60	35	3	2	95 (95.00)
Delayed rehabilitation group (n=100)	32	43	16	9	75 (75.00)
X^2					10.67
P					<0.05

IV Discussion

By observing and comparing the overall rehabilitation effect of the two groups of patients, using the Mayo elbow function scoring system to evaluate the recovery of elbow function, and statistics of the ROM score of the

elbow joint of the two groups of patients, it can be known that the advantages of the Rehabilitation mode of aerobic exercise on group in all indicators were more significant compared with delayed rehabilitation group, $p<0.05$. This result is consistent with those of relevant researches (Chen et al. 2017). Muscle activity can promote blood and lymph circulation, and positively improve the nutritional status of muscles and bones (Song et al. 2016). Early CPM treatment can promote the infiltration and diffusion of synovial fluid to articular cartilage, promote the secretion and absorption of synovial fluid, improve joint nutrition and metabolism, and avoid fiber contracture and loose adhesion. Combined with the auxiliary exercise and daily life training, the stress stimulation at the fracture site is further promoted, the proliferation of osteoblasts is promoted, the nutrient effect of nerve on muscle is enhanced, and the repair of muscle fiber morphology of muscle spindle and intrafusal is accelerated, so as to restore the joint function as soon as possible and realize more significant therapeutic effect.

V Conclusion

In conclusion, Rehabilitation mode of aerobic exercise on mode is more effective for elbow fracture. Rehabilitation mode of aerobic exercise on after elbow fracture has many advantages, of which the main one is that the early active or passive ROM movement of elbow can draft joint capsule and ligaments, tendons and joints surrounding soft tissue, promote the secretion of intra-articular synovial fluid and circulation while avoiding contracture, reduce the adhesion rate in the joints, relieve the pain of the patients, which is highly worth of being popularized. In contrast, if the intervention time of rehabilitation treatment is relatively late, the patient will easily produce a variety of adverse conditions, such as joint adhesion. In the rehabilitation treatment, the patient's pain is also serious, which will hinder the implementation of functional recovery treatment of elbow joints. The results of this study showed that for patients with elbow fracture, Rehabilitation mode of aerobic exercise on with significant effects. However, in view of the limited sample size in this study, a large sample size study should be carried out in the future to fully support such result.

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