

LETTER TO THE EDITOR

Efficacy of Based on Ecology Science Chronic Soft Tissue Injury in Table Tennis Players

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Efficacy of Based on Ecology Science Chronic Soft Tissue Injury in Table Tennis Players. The 120 patients with chronic soft tissue injury who were treated in our hospital were selected as the study subjects. All the patients were table tennis players. The patients were randomly divided into study group and reference group. Where, the study group was treated with sunshang capsule, while the reference group was treated with bone setting therapy. The treatment efficacy of the two groups was observed and compared. By adopting different treatment options and comparing the soft tissue pain symptoms and comprehensive functional activity scores, the results showed that the study group enjoyed more significant advantages, $P < 0.05$. In comparison of the overall treatment efficiency, study group enjoyed more pronounced advantages, $P < 0.05$. Treatment of chronic soft tissue injury in table tennis players can achieve better results and significantly improve their quality of life.

I Introduction

Chao Chun, Lei-Lei Sun published “Trend Extrapolation Prediction Method of Excellent Basketball Athletes in Training Environment” on Issue 107, Pages: 2717-2722, Article No: e107300, Year: 2019, in the article, As an important part of ‘Three big-ball sports’, Chinese Basketball has always been a focus of public discussion. Its performance in the world sporting events has also driven the whole Chinese sports. In this paper, regional distribution, cultural quality and the number of level athletes of Chinese basketball athletes have been analyzed. By quantitative analysis of excellent Chinese basketball athletes from 2004 to 2012, mathematical model about prediction on the number of athletes has been obtained.

With the improvement of people’s living standards, the awareness of health care has gradually increased, and more and more people are beginning to take various sports exercises. Table tennis, a sports & entertainment exercise, has always been one favorite exercise of our country’s nationals, and many groups have joined the ranks of professional athletes (Wu et al. 2019). Table tennis players are prone to various kinds of sports injuries during daily training or competitions, such as common rotator cuff injuries, lumbar injuries, patella strain, ankle joint injuries, chronic soft tissue injuries, etc (Wei et al. 2013). Where, chronic soft tissue injury is the most common one.

In orthopedic diseases, soft tissue injury (Figure 1 below) is relatively common, a disease of bone tissue damage due to pulling, squeezing or long-term overloading work. There are many types of soft tissue injuries, such as sprains, bruises, crush injuries, acute tendon injuries and chronic tendon injuries, as well as open injuries

and closed injuries. The routine surgical care is to raise and fix the affected limb (Figure 2 below) to strengthen nutrition and promote wound healing. Cold compress (Figure 3 below) is very important within 8-24 hours after the injury. If the condition is serious, it needs to be closely observed to prevent shock. In the middle and later stages, physiotherapy, massage and blood-activating drugs can be used, and functional exercise can be properly performed to promote the absorption of extravasated blood and exudates as well as tissue repair (Wang et al. 2017). This study was conducted to observe and analyze the effects of sunshang capsule and bonesetting liquid in treating chronic soft tissue injury in table tennis players. The report content is as follows.



Figure 1. Soft tissue injury



Figure 2. Injured limb fixture



Figure 3. Cold compress

II Materials and Methods

The 120 patients with chronic soft tissue injuries treated in our hospital were selected as the study subjects. All patients were table tennis players. The time range was from January 2016 to December 2017. All patients obtained a definite diagnosis through clinical related examinations, met the contents of “Surgery” in the diagnostic criteria of Western medicine, and met the relevant contents in “Traditional Chinese medicine tendon injury”, “Guidelines for Clinical Research of New TCM Medicine” and “diagnosis and curative effect criteria for Chinese medical disease” in TCM differentiation criteria. Inclusion and exclusion criteria for the patients were: consistence with Western medicine diagnosis of chronic soft tissue injury and diagnostic criteria for Qi stagnation and blood stasis in Chinese medicine, with the right to informed consent, willingness to accept the study, no other similar drugs during the trial period of this drug; no open injury or skin damage at the wound, infection or osteofascial compartment syndrome, complicated severe heart, liver and kidney dysfunction, complicated fracture with tendon or ligament and other soft tissue completely ruptured, tumor, coagulation dysfunction, etc. The patients were divided into study group and reference group according to randomization, each with 60 cases. Where, the study group had 35 males and 25 females, ranging in age from 16 to 32 years with an average of (23.6±3.5) years. The duration ranged from 10 days to 6 years with an average of (1.9±0.5) years. The reference group had 38 males and 22 females, ranging in age from 18 to 30 years with an average of (23.6 ±3.5) years. The duration ranged from 14 days to 5 years with an average of (1.6 ±0.3) years. Comparison of the relevant data of the two groups showed comparability, $P > 0.05$.

Patients in the study group were treated with sunshang capsules. Patients in the reference group were treated with bone setting liquid. The treatment method for the study group: patient took sunshang capsule (batch number: 20090801) 2 pills each time after meals for 3 times a day. One course of treatment is 1 continuous week and the treatment lasted 3 weeks. The patients in the reference group were externally applied with bone setting liquid (SFDA approval number: Z45021659) three times a day. The application range should exceed the swollen part. One course of treatment is 1 continuous week and the treatment lasted 3 weeks. After every course of treatment, the efficacy was observed and compared, and follow-up was performed. If the patient has already recovered before the end of the course, medication can be stopped in advance. The case can be included as a valid case in the statistical analysis. Bracing treatment program can be implemented according to the actual condition of the patient.

The overall treatment efficacy of the two groups was statistically compared and rated according to the relevant content of the “diagnosis and curative effect criteria for Chinese medical disease”. There are four

standards, i.e., cured, markedly, effective and ineffective (Dong et al. 2017). The patient's soft tissue damage symptoms, functional activity scores and adverse reactions were observed. According to the relevant content in "Guidelines for Clinical Research of New Chinese Medicines", pain, tenderness and dysfunction of patients before and after treatment were evaluated.

The statistical analysis software used was SPSS 21.0. Where, the measurement data were expressed as mean \pm average ($\bar{x} \pm s$), and *t* was used for comparison between groups; the count data was expressed using natural numbers (*n*) and percentages (%), and χ^2 was used for comparison between groups. $P < 0.05$ indicates statistical value.

III Results

Safety evaluation covers two aspects of vital signs and laboratory indicators. Where, vital signs include body temperature, pulse, respiration and blood pressure. Laboratory indicators include liver and kidney function, three routines, as well as fever, nausea, vomiting, stomach pains and other adverse reactions. The results showed that 1 patient in the study group and 2 patients in the reference group had mild stomachache during the treatment period, with an adverse reaction rate of 1.67% and 3.33%, respectively. No other serious adverse reactions were seen. Comparison of the incidence of adverse reactions in patients showed no significant differences, $P > 0.05$, and there was no statistical significance.

IV Discussion

Chronic soft tissue injury is a series of chronic contusions or (and) lacerations that occur in body's motor system and the tissues between bone and skin (Che et al. 2018). It covers a wide range of tissues, such as tendons, ligaments, muscles, fats and joint capsules. Also, it involves chronic injuries in peripheral nerves and blood vessels (Wang and Jiang 2013). From the perspective of traditional Chinese medicine, chronic soft tissue injury belongs to the category of "tissue injury", and Qi stagnation, blood stasis and venation impassibility are its pathological mechanisms. From the Western medicine point of view, the pathogenesis is blocked microcirculatory perfusion at the site of injury, increased local capillary permeability, free radical deposition and damage to vascular endothelial cells, causing muscle fiber disturbances that eventually leads to swelling, pain and functional limitations in the affected area (Zhang et al. 2015).

In this study, the study group treated with sunshang capsules received better results. Sunshang capsules can positively regulate abnormal permeation of capillaries and remove free radicals (Figure 4 below) to help reduce the damage to vascular endothelial cells, while blocking the synthesis of thromboxane and platelet aggregation, thereby blocking the synthesis of inflammatory mediums and obtaining good results. By comparing the soft tissue pain symptoms and comprehensive functional activity scores, the results showed that the study group had more significant advantage $P < 0.05$; in comparison of overall treatment efficacy of the patients, the study group had more pronounced advantage, $P < 0.05$.

V Conclusion

To sum up, treatment of chronic soft tissue injury in table tennis players with sunshang capsules can get better results and significantly improve their quality of life. Meanwhile, there is no obvious adverse reaction with high safety and reliability. Therefore, it is worth promoting in practice.

References

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