

Progress in Clinical Application of Rehabilitation Evaluation Methods for Scapulohumeral Periarthritis

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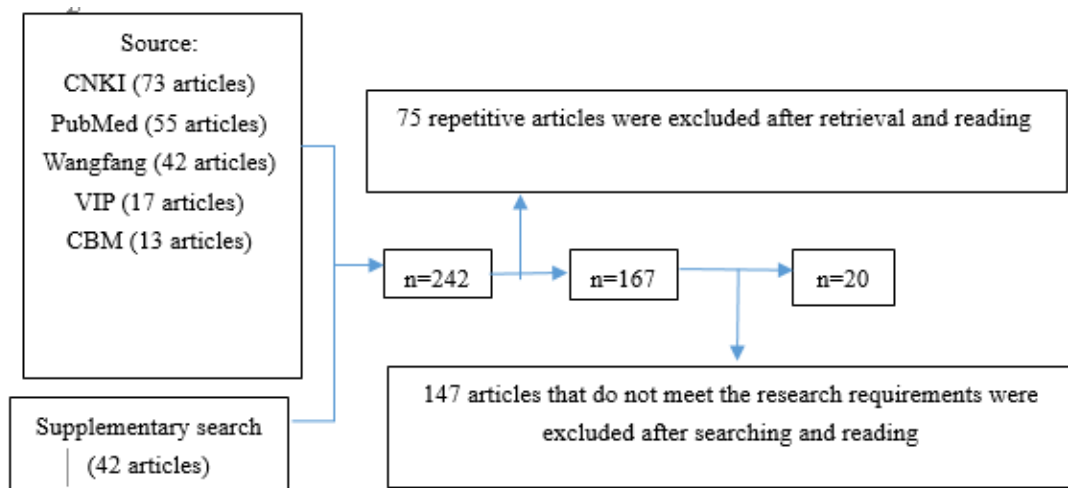
Abstract: Scapulohumeral periarthritis, a frequent orthopedic and rehabilitation condition, can cause shoulder discomfort and shoulder joint dysfunction as a result of symptom progression, which lowers patients' quality of life. It is crucial to actively seek medical attention, stop the onset of symptoms, and enhance shoulder function following the illness. Patients with scapulohumeral periarthritis who are receiving clinical treatment have a variety of options for evaluating the rehabilitation's impact, and different evaluation methods have obvious differences in emphasis. To fulfill the clinical evaluation demands of various patients for illness rehabilitation, it is required to define the application pertinence and scope of application of various evaluation methods through study.

Keywords: scapulohumeral periarthritis, rehabilitation treatment, evaluation indicators, clinical application

1. Introduction

Presently, the primary clinical treatment principle for patients with scapulohumeral periarthritis focuses on functional rehabilitation and includes symptomatic treatment, functional rehabilitation training, physical therapy, and other interventions. To reduce symptoms, as well as maintain and enhance the shoulder joint function of the diseased side, individual treatment principles can be developed based on the clinical characteristics of various patients [1]. However, in actual clinical practice, it is impossible to use uniform standards to assess the clinical rehabilitation effect of various patients following therapy due to the diversity and complexity of scapulohumeral periarthritis symptoms. It is necessary to reasonably select the evaluation method after weighing the symptom performance tendency and provide individualized rehabilitation treatment and rehabilitation evaluation scheme. Nevertheless, in the current clinical application, there are different opinions on the evaluation methods for the rehabilitation effect of scapulohumeral periarthritis, which has a negative impact on the maintenance of the quality of patients' clinical treatment prognosis [2]. Based on the above background, this paper reviews the application of rehabilitation evaluation schemes in the clinical treatment research of scapulohumeral periarthritis in recent years to provide an application basis for the clinical evaluation of clinical treatment effects of the same type of patients (see Table 1).

Table 1: Literature screening process



2. Overview of Clinical Concept of Scapulohumeral Periarthritis

Scapulohumeral periarthritis is a clinical orthopedic disease with its own metabolic dysfunction as its pathogenesis, which is also known as "fifty shoulders" since the population at greater risk is manual workers around the age of 50. Symptoms such as shoulder pain and limited shoulder joint activity can be seen after the disease. According to the patient's imaging results and symptoms, it can be split into three stages: the inflammation stage, the adhesion stage, and the thawing stage. In severe cases, shoulder muscle atrophy can be induced by pain and activity disorder after the transformation of chronic scapulohumeral periarthritis. It is necessary to actively carry out treatment to maintain the patient's shoulder joint function [3].

The clinical pathological research pointed out that in the anatomical structure of the shoulder joint, muscles, tendons and ligaments were the main tissues to maintain the stability of the shoulder joint. Among them, the tendon tissue itself had a weak blood supply, and the trend of degenerative change was obvious with age. However, the accumulation of sustained injuries sustained during shoulder activities may also increase the friction and compression force of the soft tissues surrounding the shoulder joint, inducing scapulohumeral periarthritis after the accumulation of related injuries. It is common practice to use conservative treatment plans to treat diseases, such as the oral administration of over-the-counter anti-inflammatory drugs, localized blocking therapy, etc. However, the use of these drug therapies can only temporarily improve some of the disease's symptoms, and cannot fundamentally improve the disease. Additionally, the treatment of scapulohumeral periarthritis in different stages should be targeted to ensure effective relief of patients' symptoms. For the improvement of targeted treatment, it is necessary to reasonably select relevant evaluation methods during the treatment, Determine the individualized treatment needs of patients [4].

3. Application Research of Different Evaluation Methods in the Rehabilitation Treatment of Scapulohumeral Periarthritis

3.1 VAS Scoring (Visual Analog Pain Score)

Pain is the main clinical symptom type of patients with scapulohumeral periarthritis, so the improvement of pain symptoms is one of the main clinical evaluation dimensions in the evaluation of patients' rehabilitation treatment. The VAS scoring method is a kind of pain evaluation method widely used in clinical practice. It is simple to evaluate and can intuitively determine the subject's own pain perception according to the length of the line segment [5]. Zou Qingbo [6] et al. found in their clinical treatment research that the VAS scoring of scapulohumeral periarthritis pain symptoms after clinical treatment decreased significantly compared with that before treatment, $P < 0.05$, which can determine that the VAS scoring has an evaluation effect on the patient's feelings of symptom relief after treatment, while in the analysis of clinical treatment effect, it is found that the combined application of small needle knife and needle warming moxibustion treatment can improve the adhesion of muscle tissues around the shoulder joint, improve the blood supply level of surrounding soft tissues to promote the relief of shoulder inflammation, and improve pain symptoms according to the analysis of symptoms and pathogenesis of shoulder periarthritis in traditional Chinese medicine after the treatment of adhesion tissue release and point selection based on syndrome differentiation.

3.2 ROM Evaluation (Shoulder Joint Range of Motion Evaluation)

The joint mobility score is a type of clinical assessment of the axial mobility of large joints in humans [7], which can guide the subject to complete the assessment of shoulder flexion and extension, abduction, internal rotation, external rotation, horizontal abduction, and adduction angles in a seated or supine position in a neutral humeral position and evaluate the progress of shoulder joint dysfunction in patients with scapulohumeral periarthritis [8]. It is easy to operate and does not require special inspection equipment. Therefore, targeted rehabilitation treatment measures can be formulated when the patient's shoulder joint activity is limited [9]. In a clinical study by Nannan Yu [10] et al., after the combined treatment of filiform-fire needle and sinew acupuncture for scapulohumeral periarthritis, the patient's shoulder pain symptoms were significantly relieved, and the shoulder joint flexion, abduction, extension, internal rotation, and external rotation angles were significantly improved compared with those before treatment, $P < 0.05$. It can be seen that the combined application of sinew acupuncture and filiform-fire needle can use the traditional Chinese medicine treatment theory to improve the local microcirculation of the lesion, delay the degenerative changes of the tendon tissue, remove the

extensive adhesion of surrounding soft tissues, maintain the stability of shoulder joint activity, and promote functional recovery based on the effects of "relaxing tendons and dispersing fluid" and "warming and activating collaterals". The implementation of shoulder mobility assessment, on the other hand, can achieve dynamic stage assessment of the functional improvement of the patient's shoulder during the relevant treatment period and provide the patient with a long-term feasible rehabilitation treatment plan to effectively correct the functional impairment associated with the lesion, with significant clinical application value^[11].

3.3 Constant-Murley Scoring (Shoulder Joint Function Scoring)

Constant-Murley scoring method is a relatively complete shoulder joint function evaluation scale^[12], including four dimensions of disease impact on activities of daily living, pain, muscle strength and joint range of motion^[13]. It can be clinically assessed to determine the impact of scapulohumeral periarthritis on shoulder function limitation and quality of life. It is widely used in various clinical rehabilitation treatment studies, and is one of the important evaluation methods in the rehabilitation evaluation of scapulohumeral periarthritis^[14].

In a clinical study by Wu Dan^[15] et al., the Constant-Murley scoring method was used as one of the evaluation indexes for individualized work + small needle knife treatment of persistent scapulohumeral periarthritis. It can be seen that the overall score results have a more intuitive quantitative assessment effect on the improvement of shoulder joint function in patients. In this research, it was found that on the basis of individualized intervention and rehabilitation training of shoulder joint function on the diseased side of patients, combined with small needle knife treatment, shoulder joint function could be comprehensively improved on the basis of tissue release and glass around the shoulder joint of small needle knife; In the clinical research of Zhang Xiaoyan^[16] et al., after the detailed evaluation of the scale dimensions of shoulder joint function of patients with scapulohumeral periarthritis after clinical treatment, it was found that the implementation of detailed evaluation of different dimensions can further clarify the tendency of patients with periarthritis of shoulder to influence the function, and can timely identify the limitations of the improvement of corresponding dimensional obstacles in the treatment, so as to adjust the treatment plan and achieve the comprehensive improvement of the shoulder function of patients with scapulohumeral periarthritis. However, based on traditional manual massage and acupuncture treatment, combined with local treatment of symptomatic prescriptions, comprehensive treatment can be achieved for the pathogenesis of "wind-cold arthralgia", thus providing a basis for the treatment and rehabilitation of shoulder joint function of patients.

3.4 ADL Scoring (Daily Life Activity Scoring)

As an important joint structure in human upper limb activities, the shoulder joint can cooperate with upper limb activities to complete relevant movements and has a clear impact on the quality of life, so the onset of the shoulder joint can affect patients' upper limb functions and life activities after shoulder joint dysfunction, so the assessment of activities of daily living functions in the clinical treatment of patients with scapulohumeral periarthritis is also of great significance^[17]. In the study of clinical treatment of patients with scapulohumeral periarthritis, Kong Dejie^[18] et al. found that the application of ADL scoring has a certain evaluation effect on the improvement of patients' life activity ability after the disease. It can improve the clinical treatment comprehensiveness of patients after confirming the patients' shoulder joint function, the degree of limitation of life activity ability, and the dimension of limitation after cooperating with the application of the Constant-Murley scoring. After the analysis of the treatment scheme of this study, it can be known that the implementation of shoulder three-needle side acupuncture can be carried out at the same time with two types of acupuncture at the same acupuncture point to enhance the stimulation effect of the point, which can improve the patient's shoulder joint pain symptoms. However, the application of Wutou Decoction, a dialectical prescription, can relieve the symptoms, reduce the limiting factors of shoulder joint activity, and actively maintain the ability of the patient's upper limb activities of daily life by dispersing cold and dehumidifying, relaxing muscles and bones.

3.5 Muscle Strength Evaluation

Studies have pointed out that the onset of scapulohumeral periarthritis can be followed by the occurrence of local muscle adhesions in the shoulder, reducing the intake of relevant nutrients by the muscle tissue, leading to muscle atrophy of different degrees, affecting the upper limb muscle strength

of the side with the disease, and limiting the upper limb activity function. Therefore, the implementation of muscle strength assessment is of great significance to whether patients have a risk of shoulder muscle adhesion and muscle atrophy^[19]. According to the clinical treatment study by Wang Huili^[20] et al., the implementation of rehabilitation therapy has a significant effect on the improvement of muscle strength of the upper limb of the patient through the evaluation of the upper limb muscle strength of the affected side of the subject, which can release muscle adhesions and restore muscle activity function and muscle strength level through clinical treatment and rehabilitation training. Meanwhile, in this clinical study, it was pointed out that the combination of point selection based on syndrome differentiation and arc blade acupuncture treatment can adjust the local blood circulation level and inflammatory stimulus reaction degree under the stimulation of acupoints, eliminate the inflammation level of tissues around the shoulder joint of patients and maintain the blood supply and nutrient absorption level of tissues within the pathological range while loosening the adhesive tissues to actively avoid the risk of muscle atrophy and improve muscle function.

4. Conclusion

Rehabilitation therapy is a significant clinical treatment option for patients with scapulohumeral periarthritis. The treatment idea of combining traditional Chinese and western medicine can be chosen and use various therapeutic techniques to help patients' shoulder muscles and joints function better. During the treatment, however, it is also necessary to cooperate with multi-dimensional clinical evaluation methods to determine the impact of the disease on patients' shoulder joint function, quality of life, ability to live daily life, and other aspects to formulate a reasonable treatment plan, and improve the clinical treatment effect.

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