REVIEW
Understanding of Traditional Chinese Medicine and Western Medicine on Swimming Shoulder

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ARTICLE INFO

Article history
Received: 20 July 2020
Accepted: 22 July 2020
Published Online: 30 July 2020

Keywords:
Swimming shoulder
Traditional Chinese medicine and Western medicine
Recognition
Diagnosis and treatment

ABSTRACT
Swimming shoulder refers to shoulder pain syndrome which is caused by repeated impinges on shoulder joints among swimmers. It is one of the most common causes of shoulder pain among swimmers with high incidence. Swimming shoulder can affect the systematization of swimmers’ training and the improvement of their training level and performance, which is a difficult problem for many swimmers, coaches, medical staff and sports medical doctors. Therefore, attention should be paid to the treatment of swimming shoulder in daily diagnosis and treatment.

1. Introduction
Swimming shoulder refers to shoulder pain syndrome which is caused by repeated impinges on shoulder joints among swimmers, including subacromial impingement syndrome and rotator cuff tendinitis. Clinical manifestations include different degrees of pain around the shoulder joint and shoulder joint mobility disorder, which is one of the most common reasons of shoulder pain in swimmers. Swimmers are vulnerable to shoulder injuries. According to reports of McMaster and Troup, the shoulder pain incidence is 26% and a history of shoulder pain is 73% among elite universities’ athletes in the United States. Swimming shoulder affects the systematization of swimmers’ training and improvement of their training level and performance, which is a difficult problem for many swimmers, coaches, medical doctors and sports medical doctors.

During the earlier period, patients is mainly due to the recent training intensity or volume increase, which result in pain of shoulder and barriers to shoulder joint function. There are also some pathology changes, such as disorder of shoulder joint pattern, dynamic structure imbalance and gradually increase of shoulder joint surrounding tissue edema, bleeding out, fibrosis and inflammatory reaction of tendon, eventually the partial or complete tear of rotator cuff. Therefore, in order to avoid further aggravation of patients with serious consequences, people need to pay attention to and understand the pathogenesis and mechanism of swimming shoulder and timely intervention treatment.

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Supported by Foundation of Zhejiang Educational Committee(Y201840404)
should be given. The author expounds the understanding of swimming shoulder from different perspectives of traditional Chinese and Western medicine in order to provide reference for improving the diagnosis and treatment effect of swimming shoulder.

2. Understanding of Traditional Chinese Medicine and Western Medicine on Swimming Shoulder

2.1 Understanding of Western medicine

At present, there is no unified conclusion about swimming shoulder in precise mechanism. According to modern anatomy, the interstitial structure between caput humeri and coracoacromial arch is called subacromial space. During swimming, humerus abduction, upper arms lift and subacromial space becomes narrowed. This can lead to repeated flexion and friction injuries and impingement of the acromion slide capsule, rotator cuff tendon, biceps longhead tendon and coracoacromion ligament under the acromion space. This can also lead to subacromial impingement syndrome. The damage and degeneration of structures in the subacromial space can lead to swimming shoulder.

Swimming is the most frequent exercise using shoulder joints, which involves thousands of repeated strokes for almost every water training session. Each swimmer adds up to a million arm strokes a year. Such frequent use will cause chronic strain of the shoulder joint, lead to fatigue of the rotator cuff muscles and the scapula stability muscles, which accelerates the strength imbalance of the muscles around the shoulder joint and the instability of the shoulder joint.

Secondly, glenohumeral joint relaxation and abnormal technical movements are also important causes of shoulder swimming, but a single factor may not be sufficient to accurately explain its mechanism. Swimming shoulder is mainly caused by many comprehensive factors either alone or in combination.

2.2 Understanding of Traditional Chinese Medicine

According to the clinical manifestations of swimming shoulder, this disease can be classified as “shoulder pain”, “arthralgia syndrome” and “muscular rheumatism”. A large number of repetitive movements of swimmers lead to chronic shoulder strain, damage of tendon and vessel, circulation stagnation and blood stagnation or insufficiency of vital energy and blood of shoulder joints, tendon and vessel malnutrition. On the basis of wind-cold damp pathogen, there are main pathogenesis of vital energy deficiency, wind, cold, wet, flow confined by meridian. It will have arthralgia pain when the vital energy and blood is impeded in meridians, muscles, bones and muscles. The main manifestations include: shoulder joints, muscle pain, joint tight, adverse flexion and extension. It will be more serious in case of cold play. There is less pain in case of heat. The two above belong to anemofrigid-damp arthralgia.

3. The Diagnosis and Treatment of Traditional Chinese Medicine and Western Medicine on Swimming Shoulder

3.1 Clinical Diagnosis

3.1.1 Western Medical Diagnosis

Swimming shoulder is mainly manifested as shoulder joint pain and shoulder joint dysfunction, most of which are anterior upper shoulder or diffuse pain. Early pain is often triggered by a recent increase in training intensity or volume. Shoulder pain affects athletic performance, restricting the movement of shoulder joint with influence on athletes’ normal training.

The soft tissue tenderness around the shoulder joint is obvious. Physical examinations show reduced range of motion of shoulder joints, decrease muscle strength around the shoulder joint, and the presence of pain arc. The resistance abductor test, the impact test and anterior dislocation fear test are all positive.

3.1.2 Traditional Chinese Medical Diagnosis

The diagnosis of swimming shoulder in traditional Chinese medicine includes shoulder joint pain and limited mobility. First we should identify migratory arthralgia, arthralgia, fixed arthralgia. Among them, migratory arthralgia with wind, arthralgia with cold, fixed arthralgia with wet. Respectively, the main symptoms of migratory arthralgia consist of shoulder joint and muscle pain, adverse flexion and extension and wandering pain. At the beginning, the symptoms are such as aversion to wind and fever.

Arthralgia is mainly manifested as shoulder joint and muscle pain. When it is cold, it can be more serious. When it is hot, it plays a role in reducing pain. Arthralgia also presents as tight joint, adverse flexion and extension, fixed pain and afraid of cold. Fixed arthralgia mainly manifests pain in joints and muscles, heavy numbness, obvious swelling, restricted joint activity, aggravation or attack on
3.2 Clinical Treatment

3.2.1 Western Medical Treatment

The treatment of swimming shoulder mainly includes surgical treatment and conservative treatment. The conservative treatment includes proper rest, intramuscular adhesive tape, exercise therapy, ultrasound, drug injection and rehabilitation propaganda. Its main objectives are to control inflammation, relieve pain, restore shoulder stability and block progressive degeneration.

Surgical treatment mainly includes coracoacromial ligament resection, excision of acromion, lateral acromioplasty, anterior acromioplasty, acromial downwelling cystic resection. Arthroscopic surgery can explore the internal injuries of the shoulder joint, repair partial or complete tear of the rotator cuff under a small wound and remove the coracoacromial ligament for subacromial decompression. Surgical treatment is suitable for patients whose conservative treatment fails.

3.2.2 Traditional Chinese Medicine Treatment

Swimming shoulder is mostly treated by syndrome differentiation. Dispelling wind and cold, desiccating dampness, relaxing tendons, relieving collateral and relieving pain are the basic principles in treating arthralgia syndrome. Syndrome differentiation can be divided into three types: migratory arthralgia, arthralgia and fixed arthralgia. The treatment of swimming shoulder by traditional Chinese medicine syndrome differentiation and classification has its characteristics and advantages, mainly including traditional Chinese medicine, acupuncture, massage, scraping, cupping, etc., which have good clinical effects.

The occurrence of swimming shoulder is mostly local energy and blood deficiency or stasis in shoulder joints with attacks of wind, cold, wet and other exogenous factors. Traditional Chinese medicine, acupuncture can dispel wind, cold and humidity, relax tendons and clear collaterals, activate blood circulation and relieve pain, so as to relieve muscle spasm around shoulder joint and improve local blood circulation.

4. Conclusion

Swimming shoulder is one of the most common injuries in swimming events, which also exists widely among swimming enthusiasts. The studies of swimming shoulder have attracted the attention of sports medicine. The occurrence of shoulder swimming may be related to incorrect technical movements, glenohumeral joint relaxation, over-training and other factors.

Swimming shoulder can cause shoulder joint pain and decrease the range of motion. Without timely diagnosis and treatment of swimming shoulder, acromioclavicular arthritis, calcification of coracoacromial ligament, abnormal acromial structure and rotator cuff dysfunction will further occur.

Chinese and Western medicine have their own different understanding of swimming shoulder. Because they complement each other, a variety of combined treatment is better. Clinical practice has shown that the combined treatment of traditional Chinese and Western medicine can improve the clinical symptoms of patients more effectively and accelerate their rehabilitation. The view of combining traditional Chinese and western medicine to treat swimming shoulder has been paid more and more attention by many scholars.

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