



Brief Commentary

Brief Commentary based on Article “Ultrasound-Guided Electroacupuncture Treatment for Rotator Cuff Tendinopathy: Proposing an Effective Alternative to Non-Operative Medical Treatments”

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The Case Report in the article “Ultrasound-Guided Electroacupuncture Treatment for Rotator Cuff Tendinopathy: Proposing an Effective Alternative to Non-Operative Medical Treatments” describes a methodology of acupuncture that relies on ultrasound visualization to guide treatment [1]. Specifically, it utilizes ultrasound to see areas of injury/pathology within the rotator cuff tendon(s) and ultrasound to visualize acupuncture needle placement into these areas.

Musculoskeletal ultrasound is utilized extensively within the medical field of primary care sports medicine in the United States of America, a non-operative orthopedic specialty that has increasingly progressed in physician number and clinical complexity and depth since the origination of the American Medical Society of Sports Medicine (AMSSM) in 1991.

Sports Medicine physicians see a large number of shoulder complaints annually in their offices, with rotator cuff tendons commonly being a source of pain and loss of function [2]. Sports Medicine physicians also routinely utilize ultrasound to view musculoskeletal

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structures within the body, including ligaments, tendons, muscles, nerves and joints.

The rotator cuff is comprised of four muscles and their corresponding tendons that permit shoulder movement in all directions: the subscapularis, supraspinatus, infraspinatus and teres minor. The subacromial bursa is a small fluid-filled space that resides primarily between the bony segment of the scapula/shoulder blade called the acromion and the supraspinatus tendon to provide lubrication and prevent friction between these two adjacent structures [3].

The rotator cuff tendons of the shoulder are structures well visualized by ultrasound [4]. Ultrasound of the shoulder aids in both the diagnosis of tendon pathology (e.g. tears, calcifications, thickening) and in any therapeutic interventions (e.g. ultrasound guided injections or needling techniques).

Acupuncture, including Electroacupuncture, is an effective treatment for shoulder pain. To date, sports medicine acupuncture treatment strategies often target the tendino-muscle Small Intestine (SI) and San Jiao (SJ) meridians. The Large Intestine (LI) meridian at LI15 and the San Jiao meridian at SJ14 are key points of access for the supraspinatus and infraspinatus tendons, respectively, in conjunction with muscular/motor point needling techniques along the rotator cuff muscles (e.g. SI12 for the supraspinatus; SI11 for the infraspinatus) [5,6]. Huatuojiayi Points C4-C6 can also be treated as they're part of the spinal segment that innervates the rotator cuff [5]. Electrical stimulation techniques often pair rotator muscles or an individual muscle with their corresponding tendon [6].

Western sports medicine techniques treating the rotator cuff involve direct treatment to the subacromial bursa and involved rotator cuff tendon(s) through varied procedural techniques, including corticosteroid injections, platelet-rich plasma (PRP) injections, extra-corporeal shockwave therapy (ESWT), and various tenotomy procedures (e.g. tenex or tenjet and percutaneous tenotomy) [7-9]. The acupuncture treatments described above do not necessarily target known areas of pathology or injury because of lack of anatomical visualization.

This case report describes both utilizing ultrasound to visualize the subacromial bursa, rotator cuff tears and rotator cuff tendon calcium deposits, in addition to using ultrasound to visualize acupuncture needle placement guidance into these areas. The premise of this approach is that by targeting the areas of pathology or injury causing the symptoms and loss of function, treatment efficacy can be improved and time to symptomatic resolution can shorten.

The novel approach described in this case report fuses the two strategies of sports medicine acupuncture and Western sports medicine techniques. It successfully shortened the typical acupuncture treatment duration described/recommended from two times/week for 3-6 weeks to four weekly treatments in total [1]. The success of the shortened frequency and duration of treatment is most likely due to the ultrasound visualization strategy, so that acupuncture needles can indeed be accurately placed into areas of symptomatic pathology.

While more cases and formalized research studies need to be developed to test the hypothesis that ultrasound visualization needling techniques can shorten treatment duration and improve rotator cuff tendinopathy treatments overall, this is a promising foundation and may even serve to help advance the field of sports medicine acupuncture.

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Conflict of Interest

The author declares no conflict of interest.

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