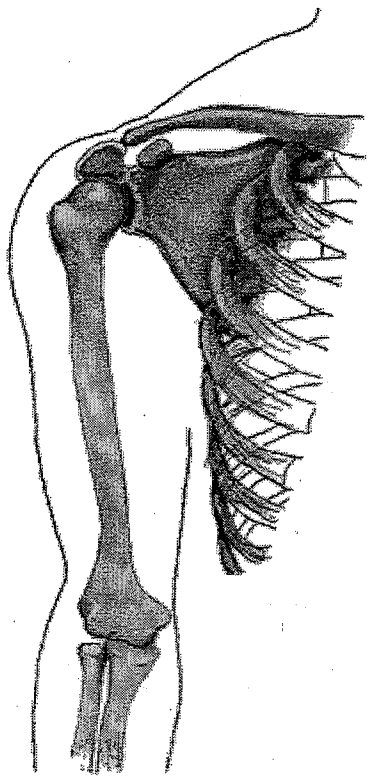
Chiropractic Treatment of Adhesive Capsulitis Versus Medical Modalities



Mark T. Wright
#9334
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ABSTRACT

Objective: The purpose of this literature review is to dissect the information provided in the referenced articles with the intent to organize the knowledge, and then compare the conflicting ideas in order to gain veracity. More specifically this paper will show that chiropractic treatment of adhesive capsulitis is less invasive, and produces a more effective and less complicated means of restoration to the affected shoulder than current medical procedures. **Introduction:** A brief history on the background of adhesive capsulitis, including its etiology and diagnosis will be given. **Discussion:** The complications of corticosteroid injections and pain relievers will be reviewed, and the patient's response to both medical and chiropractic treatments will be documented. **Conclusion:** After reviewing the referenced articles, this paper concludes that chiropractic treatments offer the patient suffering from adhesive capsulitis a less invasive alternative to the current medical protocol. Also noted was a faster rate of recovery with patients receiving chiropractic care for their shoulder in comparison to patients receiving medical treatment.

METHODOLOGY

The Medline database, which contains nearly 10,000 articles, was used to gather the referenced journals for this paper. A search for "frozen shoulder" yielded 210 results, and a search for "adhesive capsulitis" returned 94 results. The abstracts of these articles were manually sorted through, and only those references pertinent to this paper were used. The Index to Chiropractic Literature was also searched, and 3 articles were found when using the key words, "frozen shoulder". Two of these journals were used as references in this paper. Three books were used as references. I was referred to these books by reading the journals mentioned above. Limitations of this literature review include the need for more chiropractic research on the topic of frozen shoulder.

INTRODUCTION

In 1872, Duplay was the first author that attempted to discern adhesive capsulitis from the stiff and painful shoulder secondary to arthritis (5). He described a painful, stiffening of the shoulder and named this periarthritis (5). It was not until 1930 that adhesive capsulitis was given a clinical identity and name, when Codman introduced the term "frozen shoulder" (4,19). Codman used the term frozen shoulder to define the clinical findings of a shoulder lacking range of motion in all directions with accompanying pain. He wrote that frozen shoulder was, "difficult to define, difficult to treat, and difficult to explain" (4). In 1945, Neviaser coined the term "adhesive capsulitis" after describing evidence of reparative inflammatory changes in the joint capsule (16). However, several studies referenced could list no documented findings of adhesions in the shoulder complex (1,8,13,15). Surgeons have been looking for the supposed adhesions and not finding them. Several thorough and well-designed imaging studies involving frozen

shoulder patients have shown no adhesions in the shoulder (8,21). Continued debate surrounds the terminology of this dysfunction and HGAC (Humeroglenoid Acromioclavicular Syndrome has been the new suggested term (21). To the doctor HGAC can mean, " Haven't Got a Clue" (21). This paper will use the term frozen shoulder from this point on, because this term seems to describe the disorder the best.

There have been several theories proposed about the etiology of frozen shoulder. The most widely accepted one suggests that the disorder be initiated by a protective muscular response to trauma or repetitive use that causes inflammation of the surrounding musculature (8,11,12). Travell and Simmons propose a hypothesis of muscular dysfunction that supports this theory (2,4). They believe that shortening of the subscapularis muscle is the cause of frozen shoulder, and that by addressing the trigger points found in this powerful muscle there can be full recovery for the patient (24).

Although the etiology is difficult to describe, the diagnosis is relatively simple. There are two types of frozen shoulder. The primary form is idiopathic or due to repetitive injury (14). The secondary form can be due to cervical disc disease, diabetes mellitus, head injury, or stroke (12,14). Frozen shoulder most commonly occurs in the fourth to sixth decade of life, and it affects women more frequently than males with the non-dominant arm mainly involved (15,16). The frozen shoulder patient will present to the clinician with a shoulder that shows restricted range of motion in all directions, especially in external rotation with severe pain on movement (6,7,15). The frozen shoulder patient usually comes in to the office wearing a sling for their arm or clutching their arm to their chest (21). The pain is located over the antero-lateral aspect of the arm, and can show up anywhere in the C5 dermatome. A painful arc of glenohumeral motion, like that of rotator

cuff tendonitis, will not be present because there will be extremely restricted motion in both active and passive motions (21). The pain accompanying frozen shoulder is present with activity and rest, and night pain is exacerbated by rolling over onto the affected shoulder while sleeping (26). The actual diagnosis of frozen shoulder is purely based on clinical findings, with Apley's Scratch Test commonly found to be positive (21). Radiographs, bone scans, and laboratory studies will all be negative in the patient (16,21).

Frozen shoulder can be classified into three stages. Stage one is the freezing stage, in which severe pain is the initial complaint. Stage two, is the frozen stage, and is when the pain somewhat subsides, but the range of motion is prominently limited. In stage three, the thawing stage, range of motion is finally restored but there are still exacerbations of pain (1,14,). The full course can last anywhere from one to three years (1).

DISCUSSION

There are many different options of treatment for the patient suffering from frozen shoulder. The patient should be well educated about their options, and should be informed about the gradual rate of improvement associated with this disorder (1). They should be warned that it takes several; weeks or even months before there is marked improvement (16). Currently there is no standard treatment regime in either the medical or chiropractic field that is universally accepted (6). Frozen shoulder is thought to be a benign, self-limiting disorder that usually resolves with or without treatment in about thirty months (6). Since this is a self-limiting process, it is important to minimize any invasive procedures that could cause excess tissue damage or side effects (6). It is for this reason that many studies recommend a conservative treatment regime (6,7,12,15,26).

In fact, a quote directly from The Journal of Bone and Joint Surgery states, " Patients who have adhesive capsulitis should be managed non-operatively with a supervised physical therapy program" (26).

Chiropractors and medical doctors have different treatment protocols in the management of frozen shoulder. The medical doctor uses corticosteroid injections, arthrography, or non-steroidal anti-inflammatory drugs to manage their patients' pain and recovery.

Cortisone injections are frequently given by medical doctors to the patient with frozen shoulder (1,12,15,22). It has been documented that most physicians were unable to successfully inject the shoulder joint, and most surgeons have agreed that insertion of the needle into a stiff shoulder with a limited volume is difficult (12,26). A study done by Rizk, evaluated 48 patients diagnosed with frozen shoulder (22). It was concluded that there was no significant improvement in the patients' symptoms with either the cortisone injection or the injection site (22). Another drawback is that injection of steroids more than two times can have an adverse effect on the healing of tissue, and there is a potential for septic seeding (12). Cortisone causes many adverse effects to the human body, too many for a complete listing in this paper. Some of the major side effects are deterioration of articular cartilage, secondary degenerative changes seen on x-rays, intravascular fat emboli, and aggravation of diabetes mellitus (3). Cortisone injections may give the patient some short-term relief of pain, but the side effects for outweigh any benefits received (1).

Arthrography is another treatment commonly used by medical doctors for the management of frozen shoulder. The shoulder joint is injected with progressively larger

amounts of fluid to gradually increase the volume of the joint capsule (1). There is only a small margin of safety existing between the amount of fluid needed to distend the joint capsule, and the volume that can lead to rupture of the bicipital tendon sheaths or subscapular bursa (1). Arthrography is, however, a proven method for diagnosis but should only be used when the clinical diagnosis is uncertain (16,25). Arthroscopy is not a means of establishing a diagnosis, and should never be used to treat frozen shoulder (16).

Non-steroidal anti-inflammatory drugs are the most common forms of treatment prescribed by the medical doctor (12). The use of these drugs is non-invasive and relatively safe, but their efficacy is disputed (12,15). Retrospectively, patients' felt that NSAID'S were not helpful, and preferred more affordable analgesics (6,12).

Chiropractors tend to use non-invasive means of restoration to assist the body's healing process. Chiropractic treatment protocols include addressing the trigger points found in the shoulder musculature, manipulation of the shoulder joint, electrical stimulation, and prescribing home exercises (8,9,10,13,20,21). As discussed previously in this paper, myofascial pain and dysfunction can attribute to frozen shoulder (8,24). Trigger points are commonly found in the subscapularis, upper trapezius, and deltoid muscles in the patient with frozen shoulder (8,24). Two types of techniques that reduce or alleviate the trigger points are Nimmo and The Pressure Technique adopted by Travell (17,24). Nimmo has suggested the substitution of applying pressure to the affected muscle instead of cortisone therapy and its possible side effects (17). Travell uses percussion by a reflex hammer to reduce the located trigger points (24). In one case report using the Percussion Technique, the patient was seen twelve times over four months (24). The patient achieved

normal movement and elimination of pain, yet treatment approaches involved little pain and no attempts to force restricted movement (24).

Interferential electrical stimulation is another common technique used by the chiropractor. Several studies have shown that this therapy has an analgesic effect in reducing the patients' pain, especially when coupled with thermotherapy (hot-packs) (1,9,12).

Manipulation of the shoulder joint is frequently used by the chiropractor to increase range of motion in the patient presenting with frozen shoulder (8,9,10,21). In one case study an Activator adjusting instrument was used to address the shoulder joint (21). After 35 adjustments over 5 months the patient was found to be fully recovered (21). Another study by Beacon evaluated 122 patients over 11 years using a method of "safe" manipulation (2). In this study a surgeon performed the manual manipulation, and of the 122 patients the mean time for symptomatic relief after manipulation was 1.2 months (2). In another study comparing arthroscopic release to manipulation, the authors' results clearly indicated that for the resistant frozen shoulder manipulation is effective in relieving the symptoms in many patients (18).

Exercises are commonly prescribed by the chiropractor to patients with frozen shoulder (9,10,11,21,23). Two different types are normally given: stretching exercises to prevent further loss of range of motion, and strengthening exercises to maintain and improve strength to the shoulder girdle (1). Codman's pendular exercises are the most common ones given to the patient with frozen shoulder (4). These exercises help prevent disuse atrophy of the shoulder girdle muscles which commonly occurs in the patient suffering from resistant frozen shoulder (1,4).

CONCLUSION

After reviewing the referenced articles written by both chiropractors and medical doctors, it is clear that there is still a lot of controversy surrounding the nature of frozen shoulder. Its etiology is not clearly understood although there are some common hypothesis as stated earlier in the paper. The most consistent finding surrounding frozen shoulder is the clinical picture it presents. Its diagnosis is readily made by the competent practitioner.

It is widely accepted through both the chiropractic and medical communities that frozen shoulder is a benign, self-limiting disorder that usually fully resolves within two to three years (1,6,8,14,16,25). However, most patients can not wait the process out so they turn for help. The patient has a variety of different treatment options available to them. This paper reviewed many of the major treatment protocols that are used by chiropractors and medical doctors. Medical procedures may offer the patient some early relief of pain, but there are questions surrounding the risks involved especially since frozen shoulder has been documented to resolve on its own. In reviewing the presented articles, it was found that some of the medical treatment options are too invasive for the self-limiting nature of this disorder. Namely, cortisone injections and arthrography were found to be not only commonly used by medical practitioners, but can also have significant drawbacks or side effects. Chiropractic treatment techniques offer the patient less drastic procedures that help to relieve some of the patients' pain, and increase their motion throughout the stages leading to recovery. There have been no documented findings showing any adverse effects for the use of chiropractic manipulations, interferential stimulation, or prescribed exercises in the treatment of frozen shoulder.

The medical community is starting to recognize the benefits of some alternative techniques and is working closer with physical therapists to employ different methods of treatment. It is the author's opinion that the patient with frozen shoulder should be treated non-operatively by a chiropractor and that only for the very resistant frozen shoulder should the patient consider the more invasive medical procedures.

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