

Review on Physiotherapy Management on Frozen Shoulder

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ABSTRACT

One of the most prevalent and disabling orthopaedic problems for which patients seek therapy is painful restriction of shoulder motion. The precise sort of restriction that we now refer to as FS has been documented in medical literature for over a century. In 1872, Duplay referred to FS as "scapulohumeral periartthritis," a condition he thought was caused by subacromial bursitis. Pasteur later coined the term "tenobursite" to describe the same ailment, which he related to bicipital tendinitis. Codman created the term "frozen shoulder" in 1934. Frozen shoulder is often defined as the sudden onset of steadily escalating shoulder pain and substantial mobility restriction. This pathologic state is characterised by microscopic indications of chronic capsular inflammation, fibrosis, and perivascular infiltration. Diabetic persons are more likely to acquire the condition and require surgical treatment. The prevalence of frozen shoulder ranges between 3 and 5% and is substantially higher in diabetics, reaching up to 30%, with a predisposition for more severe symptoms and treatment resistance. It typically affects people in their forties and fifties, is somewhat more common in women than men, and can occur bilaterally. FS is also known as Adhesive Capsulitis because of the histological appearance of the disease, which consists of synovitis followed by fibrosis caused by a persistent inflammatory response (AC). The primary purpose of physiotherapy intervention (PTI) is to restore and preserve the injured shoulder's function. Physical therapy treatments include low-level laser and ultrasound therapy, as well as acupuncture and massage, have shown slight improvements in pain and function, but there isn't enough evidence to recommend them.

Keywords: Frozen shoulder, Adhesive capsulitis, Physiotherapy Rehabilitation.

INTRODUCTION

WHAT DOES IT MEAN TO HAVE A FROZEN SHOULDER?

Frozen shoulder, also known as adhesive capsulitis, is defined as "a disorder of unknown aetiology characterised by severe restriction of both active and passive shoulder motion that occurs in the absence of a recognised intrinsic shoulder pathology."(1). It's characterized by a sudden onset of shoulder pain and a limited range of motion (2). This pathologic disease is distinguished by microscopic evidence of

chronic capsular inflammation with fibrosis and perivascular infiltration. Synovial fold adhesions, obliteration of the joint space, and a thicker, constricted capsule that eventually gets cemented to the bone are all indications of constrictive capsulitis in chronic cases of Frozen Shoulder. In 1872, Duplay is credited with being the first to describe the frozen shoulder. He theorized that the periarticular soft tissues, rather than glenohumeral joint arthritis, were to blame for the pathology in these painful, stiff shoulders. Since then, a slew of writers has

published definitions, making it challenging to understand clinical data and treatment outcomes (3). Despite the fact that the pathophysiology of FS, with synovial inflammation leading to capsular fibrosis, is well documented, the cause of FS is unknown(4). In the vast majority of cases, conservative management results in improvement. We present an overview of current treatment approaches for FS in this review study(5).

AIM

This study presents a comprehensive review of the literature on frozen shoulder, with a special emphasis on management choices and the recent change of opinions about the condition's natural course. It also goes over the benefits and drawbacks of various management approaches as mentioned in the literature.

INCIDENCE

The frozen syndrome is more common in the nondominant arm and affects women more than males. The ailment mostly affects people in their 40s and 60s, and it only happens once in a while in people younger than 40. About 12% of those with the illness develop it bilaterally, indicating a genetic tendency. The same shoulder rarely is affected subsequently. Frozen shoulder syndrome has been linked to psychological issues such as sadness, indifference, and emotional stress (4). Because once a sort of shoulder pain and inflammation starts, these patients are less able to work toward recovering flexibility and function, frozen shoulder syndrome is more likely to develop in those who have a low pain threshold (4). Trauma causes frozen shoulder, which is linked to Dupuytren's contracture, Peyronie's disease, and other connective tissue disorders (7).

CLINICAL EXAMINATION

Frozen shoulder syndrome patients often have had the disease for several weeks or months before visiting a physical therapy center. The patient seeks medical help due

to pain and a gradual loss of function. The pain associated with frozen shoulder syndrome is typically excruciating. In most situations, the start of the illness is gradual and idiopathic. As previously mentioned, trauma and other events that put the patient in danger are occasionally implicated. FS's natural history follows a conventional "freezing," "frozen," and "thawing" cycle. The severity of the ailment at the outset has little bearing on its eventual recovery. Shoulder motion limitation is a common issue that leads individuals to seek medical care. A patient's functional abilities may be severely hampered as a result of this restriction. A normal glenohumeral joint should be revealed by an X-ray. However, because most frozen shoulder findings are confirmed by arthroscopy, magnetic resonance imaging may be useful in doubtful cases.

STAGES OF FROZEN SHOULDER

Freezing phase

During the freezing period, pain is often at its most intense, and patients at this stage may benefit from learning pain-relieving measures. A hot or cold pack can be used to relieve pain before beginning these workouts. Muscle extensibility has been demonstrated to improve when moist heat is used in conjunction with stretching (6). Some people may benefit from taking analgesics before going to physical therapy. It's best to start with a painless, range of motion exercises (1–5 seconds). Exercises using a pendulum can be done in flexion, abduction, or circular motion (1). If the patient tolerates it, pulley exercises and neck or scapular muscle releases can be done. Excessive straining above the pain threshold might irritate a frozen shoulder, which can have negative consequences, especially in the early stages of the ailment. According to new research, patients should avoid a forward shoulder position since it can result in glenohumeral flexion and abduction loss (4).

Frozen phase

A heat or ice pack, similar to the freezing phase, can be used to relieve pain before beginning exercises during the frozen period. To avoid worsening discomfort and inflammation, it's also a good idea to rotate before engaging in elevation activities like an external rotation stretch. To maintain muscle strength, strengthening activities are added at this time. Isometric contractions, also known as static contractions, are workouts that don't need any joint movement and aren't likely to aggravate shoulder pain (6). Exercises that stretch and develop the scapular muscles while also gently stretching the chest muscles are known as scapular retraction exercises. Isometric shoulder external rotation can also be used for flexion or abduction within the permissible range (6).

Thawing phase

The patient gradually regains range of motion during the thawing period. It is critical to reestablish normal shoulder function as quickly as feasible by regaining full range of motion and strength. Because the shoulder becomes severely weaker after a few months of reduced mobility, strengthening activities are needed. When compared to being frozen, the patient can perform more mobility exercises and stretches for longer periods of time while remaining safe. To transition from isometric or static contractions to resistance band workouts, free weights, and weight machines, resistance band exercises, free weights, and weight machines can be used(6).

CAUSES

Trauma, Diabetes mellitus, Dupuytren's contracture, Peyronie's disease, Shoulder arthroscopy, ACTH deficiency, Neurosurgery, Thyroid diseases, Cardiac disease, Parkinson's disease, stroke, Cancer, Prolonged immobilization, Medications, etc.

IN MY PRACTICE, WHAT CAN I DO?

The fundamental goal of physiotherapy intervention (PTI) is to preserve and enhance shoulder function. It's frequently combined with other non-invasive techniques (such as NSAIDs or steroids). Acupuncture, massage, and low-level laser and ultrasound therapy are examples of physical therapy (PT) techniques that have demonstrated some improvement in pain and function, but there isn't enough evidence to recommend their use(6). To help the patient regain and sustain motion, he or she should be put on an exercise program. Patients who begin exercise therapy should begin with passive stretching that includes forward elevation, internal and external rotation, and cross-body adduction. (2). 5–6 times a day should be done with these workouts. Furthermore, several 5- to 10-minute sessions must be performed every day, even if the shoulder will stiffen again in between treatments (5). TENS and electro acupuncture are also beneficial in the treatment of acute and chronic musculoskeletal pain (6). Vigorous or violent activities are not recommended since they induce increased pain and muscular guarding, thereby worsening the patient's condition. Obviously, "no pain, no gain" is not an effective therapeutic strategy for frozen shoulder conditions (6). Physical treatments such as iontophoresis and phonophoresis can also alleviate pain and inflammation. This is especially vital if the patient wants to avoid the discomfort, stiffness, and progressive thawing of the stiff shoulder that occurs naturally (2).

DISCUSSION

Although FS is still popularly thought to be a benign, self-limiting illness, this review has recently been questioned in the literature. Between 26 and 50 percent of people do not recover completely and have lingering symptoms. Proper rehabilitation aids in achieving the best results while minimizing discomfort and costs for patients. There is no general consensus on the best management strategy; nonetheless,

any desire to continue any of these therapeutic alternatives should be taken with the condition's natural history in mind(7). Finally, the management method will be determined by comorbidities, severity, and conversations with the patient (7).

CONCLUSION

Frozen shoulder is a distinct clinical diagnosis characterized by severe limitation of shoulder motion caused by capsular fibrosis. Although the cause is unknown, it is thought to be caused by the interplay of constitutional and extrinsic variables in patients aged 40 to 60. The natural history of FS is marked by stages of freezing, freezing, and thawing, and after one to three years, the syndrome is self-limiting. By employing appropriate therapeutic strategies and modalities creatively and sensibly, the physical therapist can significantly increase the pace and degree of recovery from FS. The first line of treatment for frozen shoulder is non-operative procedures such as physical therapy, anti-inflammatory medicines, and exercises done at home under the guidance of rehabilitation specialists (6). FS is a frequent disorder seen in general orthopedic practice that causes pain and stiffness, as well as functional impairment. For effective therapy options for FS, a full understanding of pathophysiology, the patient's systemic medical status, functional demands, symptom severity, and the patient's reaction to non-surgical treatment is essential. When treated conservatively, the majority of cases will resolve; hence, cautious management should be the initial option (5).

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