Self-Management of Idiopathic Adhesive Capsulitis: A Case Report

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IDIOPATHIC adhesive capsulitis (IAC; commonly referred to as “frozen shoulder”) usually affects patients 40–70 years old. The prevalence of IAC is not precisely known, but it is estimated that 3% of people develop the disease over their lifetimes. Men tend to be affected less frequently than women, and there is no predilection for race. IAC has been associated with several conditions. A higher prevalence exists among patients with diabetes, compared with the general population. The prevalence among patients with insulin-dependent diabetes is even higher (up to 36%), with increased frequency of bilateral shoulder involvement. Although the prognosis for full recovery of shoulder function is generally good among patients without comorbidity, the course of treatment can be lengthy and therapeutic interventions can be painful. The protracted recovery often involves a self-directed home program, even when patients receive physical therapy. The subject whose case is reviewed in this report was familiar with the condition and elected to self-manage it without medical consultation. His description of the intervention that provided relief is unique and may warrant attention as a potentially useful alternative to the painful active-assisted home exercises that are typically utilized for management of adhesive capsulitis.

Chief Complaint

A healthy 54-year-old right-hand dominant male complained of idiopathic pain and limited range of motion in his left shoulder. He was familiar with the symptoms of IAC, since he had experienced its symptoms in his right shoulder after a skiing accident 10 years earlier.

Medical History and Quality of Life

The subject was a 186-cm-tall (6’1”), 83 kg (183 lb), BMI 24.8, and Caucasian of Mediterranean ancestry. He assessed his general health as excellent. He denied smoking and reported alcohol consumption as being limited to one glass of wine daily at dinner. He reported no use of medications and had no medical concerns, except his shoulder symptoms. He described his work was sedentary, and reported minimal daily physical activity. He reported 9 minutes of daily use of a vibrating platform for fitness training (Globus Physioplate, Codogne, IT).

Key Points

- Idiopathic adhesive capsulitis is associated with a long recovery process and prolonged limitations in work and sport activities.
- Most patients are encouraged to perform exercises at home, which are both time-consuming and uncomfortable.
- The use of a vibration platform and specific shoulder positioning may accelerate recovery from idiopathic adhesive capsulitis in an efficient and more tolerable self-managed program.
The subject’s shoulder discomfort manifested gradually over a period of 3 months. Initially, pain and loss of motion were minimal, hindering only extreme movements of the shoulder. Eventually, pain and loss of motion significantly affected his activities of daily living. He particularly noted difficulty in putting on pull-over shirts and sweaters, due to the inability to raise his left arm. Pain and loss of motion significantly affected the quality of his sleep, since resting on either side caused pain. Pain, reported on a scale of 0 to 10 (0 = no pain, 10 = disabling pain) was 1 at rest, 2 with minimal movements, 4 if resting on either his involved left or uninvolved right side, and 7 when trying to reach positions with the affected arm elevated above 80 degrees. Pain was described as deep aching in the axilla and over the head of the humerus. There was no pain radiating to the arm or symptoms of more serious pathology.

Prior History

The subject had experienced a previous episode of IAC in his right shoulder 10 years earlier. His right shoulder had been immobilized for 15 days following a fracture of the greater tuberosity of the humerus. After nine weeks of physical therapy failed to improve the mobility of the shoulder, he was diagnosed with AC and underwent arthroscopic arthrolysis of the shoulder capsule. Physical therapy was initiated immediately after surgery and continued for two months. The subject reported having realized 95% recovery in ROM and complete pain relief.

Diagnosis

The subject recognized the symptoms of IAC as they occurred at the beginning of March 2009. At first, ROM was minimally limited, and he hoped that active movement of his shoulder within his pain threshold would prevent progressive worsening of the condition; however, he reported that the restriction in motion increased from 5% to 50% of normal ROM. Along with the loss of ROM, his pain started to affect his sleep quality.

Self-Management

Approximately four months after the condition developed, the subject resumed a regimen of whole-body vibration exercise (WBV), hoping that increased physical activity would be beneficial. This exercise routine had not been performed for approximately 10 months but had been completed on an almost daily basis in the past. The exercise regimen consisted of WBV that was performed 6 days per week. The exercise sessions consisted of two 30-second periods in a “push-up” position, two 30-second periods in a “triceps dip” position twice, and two 30-second periods in a “side-plank” position on both sides (arm straight, shoulder abducted approximately 90°). These upper body exercises were alternated with lower extremity exercises that were performed in standing positions on the WBV platform. The complete routine consisted of eight minutes of activity on the WBV platform, with approximately one-minute intervals between exercise periods. The exercise regimen did not elicit any shoulder pain and did not worsen IAC symptoms. Although ROM and quality of life did not immediately improve, his condition had been progressively worsening before initiation of the WBV program.

Improvement

Approximately three months after initiation of the WBV exercise regimen, the subject consulted a massage therapist for ideas to increase shoulder ROM. One of the lower extremity WBV exercises was discontinued and replaced with a position that pushed the shoulder into the gleno-humeral abduction barrier (Figure 1). The position was maintained with the left shoulder at a tolerable pain threshold (5/10) for 30 seconds, which was done once each day and 6 times per week.

Figure 1  Position that pushes the shoulder into the gleno-humeral abduction barrier to increase shoulder ROM.