Dynamic Chiropractic

Management of Rotator Cuff Syndrome

R. Vincent Davis, DC, PT, DNBPM

The rotator cuff of the shoulder is a musculotendinous cuff which is composed of muscular fibers of the supraspinatus, infraspinatus, teres minor, and subscapularis muscles. These muscular fibers blend with and reinforce the capsule of the shoulder joint. The etiology of this form of omodynia involves a tear in the fibers of one, or more, of these muscles and presents clinically with shoulder pain which is aggravated by motion and results in impairment of normal range of motion. Since a minor stress can easily cause a partial or complete tear of tissue already impaired by degenerative changes, these clinicopathologies are relatively common. Ischemically induced changes in such degenerative lesions predispose these tissues to stress tears due to their friability.

Typically, the history presents with an acute, severe pain of a "tearing" type with a 6 to 12 hour pain-free interval followed by the gradual return of pain and increasing intensity. If the examination reveals the presence of arm abduction, the tear is probably incomplete. In the absence of arm abductability, or the presence of the "drop arm test," the tear is probably complete and the patient should be referred for orthopedic surgical consult.

Treatment regimens for rotator cuff syndrome are controversial. Each physician, regardless of discipline, is influenced and guided by the training and education received relative to treating such pathologies. The following is recommended by this author.

Initially, cryotherapy should be administered following any episode of trauma admitted by the patient as heat therapy superimposed upon acute trauma is contraindicated. The shoulder should be placed in a sling but not fixed to the chest cage. This will provide reduced motion, but avoid immobilization which may predispose to adhesive capsulitis (frozen shoulder).

Following about 72 hours of cryotherapy involving 20 minute exposures to moist cryotherapy, begin pulsed phonophoresis (as often as time and circumstance will permit) with 2.5 percent lidocaine ointment combined with the oil coupling agent directing the sound beam directly over the site of the lesion, and if palpable, over the general area of the "tuft" of the tear. If trauma history is absent in this episode, cryotherapy is disregarded and pulsed lidocaine phonophoresis is commenced including the shoulder sling. Phonophoresis should be set for low intensity, 0.75 W/cm2 maximum, for 8 to 10 minutes, and may be necessary at least once daily for several days until pain allows for beginning of active abduction exercises with the arm in the sling. This procedure is continued so long as pain is present when performing the active abduction exercise.

With the absence of pain during active abduction, the sling is removed and the patient is instructed to begin "walking the wall" with his fingers. If pain reappears with the introduction of this exercise, interferential current therapy is commenced using the Davis procedure. Since pain is a product of stretching shortened soft tissue components, it is to be expected.

All exercises are performed with care initially and then gradually increased in strength and intensity as physiologically tolerated.

The Davis procedure my be performed several times daily, if necessary. The object of the exercises

is to come as close as possible to pain-free circumduction of the shoulder joint.

In the absence of any traumatic episode in the history, treatment may include the application of shorthwave diathermy. This author recommends its use prior to performing pulsed lidocaine phonophoresis and should be limited to no more than 20 minutes at each therapy using the triple drum electrode. The purpose of this deep heating agent is to enhance hyperemia in periarticular tissue, thereby attempting to alter the effect of ischemic soft tissue degeneration.

References

Cailliet, R. Shoulder Pain. F.A. Davis 1987.

Davis, R.V. Therapeutic Modalities for the Clinical Health Sciences, 1st ed., 1983. Copyright -- Library of Congress TXU-389-661.

Griffen, J.E.; Karselis, T.C. Physical Agents for Physical Therapists, 2nd ed. Springfield: Charles C. Thomas 1982.

Hoppenfeld Physical Examination of the Spine and Extremities. Appleton, Century, Crofts 1987.

Krusen; Kottke; Ellwood. Handbook of Physical Medicine & Rehabilitation, 2nd ed. Philadelphia: W.B. Saunders Company 1971.

Schriber, W.A. A Manual of Electrotherapy, 4th ed. Philadelphia: Lea & Feibiger 1975.

R. Vincent Davis, D.C., B.S.P.T., D.N.B.P.M.E.
Independence, Missouri

APRIL 1991