Effect of dynamic humeral centering on painful active elevation of the arm in subacromial impingement syndrome: A randomized trial

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Keywords: Degenerative rotator cuff disease; Subacromial impingement; Dynamic humeral centering

Aim.– The physiotherapy dynamic humeral centering aims to prevent subacromial impingement of rotator cuff tendons during elevation of the arm. In this study we aim to determine whether dynamic humeral centering acts via an effect on subacromial impingement mechanism by assessing its effect on painful elevation of the arm in subacromial impingement syndrome.

Patients and method.– Patients with degenerative rotator cuff disease and subacromial impingement syndrome were prospectively included in a randomized controlled trial. Patients and the assessor were blinded to the study hypothesis and treatment, respectively. Patients underwent dynamic humeral centering or nonspecific mobilisation as a control for 6 weeks in 15 supervised individual outpatient sessions with home exercises. Outcomes were pain-free range of motion (0= 0° to 10 = 150° and more, mean [extremes]) and painful arc of the shoulder (number [56] of patients with painful arc), both in active forward and lateral elevations of the arm at 3 months.

Results.– Sixty-nine patients were included: 34 in the dynamic humeral centering group (age 58± 11, ratio F/M 26/9) and 35 in the control group (age 59± 10, ratio F/M 27/9). At 3 months, pain-free range of motion, both forward (7.9 [4–10] vs 6.4 [4–10], P < 0.01) and lateral (7.5 [4–10] vs 6.1 [4–10], P < 0.04) elevation, was greater in the dynamic humeral centering than control group. The number of patients with painful arc during forward elevation was decreased in the dynamic humeral centering group (2 [7] vs 13 [41], P = 0.002).

Discussion.– Dynamic humeral centering improves painful active elevation of the arm in patients with degenerative rotator cuff disease and impingement syndrome. We therefore indicate that dynamic humeral centering is effective and acts via a specific effect on subacromial impingement mechanism.

Conclusion.– Intensive rehabilitation of lymphedema was effective in increasing the motor skills of the limb.

Reference


http://dx.doi.org/10.1016/j.rehab.2012.07.413

Assessing the function of limb lymphedema by a new functional test after intensive rehabilitation: Prospective study

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Keywords: Lymphedema; Rehabilitation; Multilayers bandaging; Functionality tests; Lymph circumference

Introduction.– Several studies showed the efficiency of intensive rehabilitation in a vascular rehabilitation unit in the treatment of severe lymphedema unresponsive to ambulatory treatment [1]. Outcome was assessed by the lymph circumference loss. The hypothesis of an increasing function of the limb had never been assessed.

Objectives.– Assessing the function of the limb lymphedema after intensive rehabilitation.

Methods.– Prospective study including 53 patients enrolled in an intensive program of rehabilitation for lymphedema (27 primary and 26 secondary) for 2 weeks (5 hours per day) combining manual lymph drainages, multilayered inelastic and elastic bandaging, physical exercises and education. Outcome was assessed by limb circumferences (53 patients), the joint motion of the knee and the elbow measured with a goniometer (31 patients) and a specific limb lymphedema functional test (31 patients). Circumferences were the mean limb circumferences measured (each 5 cm until the line between the epicondyles of the humerus for the upper limb and until the line in the middle of the kneecap for the lower limb). The functional test consisted in measuring the maximum movements realized in 30 seconds in a determined way: for the upper limb, the hand had to touch the ipsilateral knee subsequently the contralateral knee and the contralateral shoulder, the back of the neck and the ipsilateral shoulder. For the lower limb, the foot had to touch the ipsilateral noko of a square drawn on the ground subsequently tiptoes had to touch the stair of a footboard. The patient had to repeat this movement for the four nooks of the square with touching the footboard each time.

Results.– The median of age was 63.1 years. Thirty-three lower limbs lymphedema and 20 upper limbs lymphedema were included. The circumference loss was 3 cm (P < 0.01), the joint motion for leg or knee increased 8° (P < 0.01) and the limb function was better than 2 (P < 0.01).

Conclusion.– Intensive rehabilitation of lymphedema was effective in increasing the motor skills of the limb.

References


