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Combined Effect of Therapeutic Exercises and Shock Wave versus Therapeutic Exercises and Phonophoresis in Treatment of Shoulder Impingement Syndrome: A Randomized Controlled Trial

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Abstract : Background: Shoulder impingement syndrome is an encroachment of subacromial tissues, rotator cuff, subacromial bursa, and the long head of the biceps tendon, as a result of narrowing of the subacromial space. Activities requiring repetitive or sustained use of the arms over head often predispose the rotator cuff tendon to injury. Purpose: To compare between Combined effect therapeutic exercises and Shockwave therapy versus therapeutic exercises and phonophoresis in the treatment of shoulder impingement syndrome. Methods: Thirty patients diagnosed as shoulder impingement syndrome stage II Neer classification due to mechanical causes. Patients were randomly distributed into two equal groups. The first group consisted of 15 patients with a mean age of (45.46+8.64) received therapeutic exercises (stretching exercise of posterior shoulder capsule and strengthening exercises of shoulder muscles) and shockwave therapy (6000 shocks, 2000/session, 3 sessions, 2 weeks apart, 0.22mJ/mm^2) years. The second group consisted of 15 patients with a mean age of 46.26 (+ 8.05) received same therapeutic exercises and phonophoresis (3 times per week, each other day, for 4 consecutive weeks). Patients were evaluated pretreatment and post treatment for shoulder pain severity, shoulder functional disability, shoulder flexion, abduction and internal rotation motions. Results: Patients of both groups showed significant improvement in all the measured variables. In between groups difference the shock wave group showed a significant improvement in all measured variables than phonophoresis group. Interpretation/Conclusion: Combined effect of therapeutic exercises and shock wave were more effective than therapeutic exercises and phonophoresis on decreasing shoulder pain severity, shoulder functional disability, increasing in shoulder flexion, abduction, internal rotation in patients with shoulder impingement syndrome.

Keywords : shoulder impingement syndrome, therapeutic exercises, shockwave, phonophoresis
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