

Short-term Effects of High-Intensity Laser Therapy Versus Ultrasound Therapy in the Treatment of People With Subacromial Impingement Syndrome: A Randomized Clinical Trial

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Background. Subacromial impingement syndrome (SAIS) is a painful condition resulting from the entrapment of anatomical structures between the anteroinferior corner of the acromion and the greater tuberosity of the humerus.

Objective. The aim of this study was to evaluate the short-term effectiveness of high-intensity laser therapy (HILT) versus ultrasound (US) therapy in the treatment of SAIS.

Design. The study was designed as a randomized clinical trial.

Setting. The study was conducted in a university hospital.

Patients. Seventy patients with SAIS were randomly assigned to a HILT group or a US therapy group.

Intervention. Study participants received 10 treatment sessions of HILT or US therapy over a period of 2 consecutive weeks.

Measurements. Outcome measures were the Constant-Murley Scale (CMS), a visual analog scale (VAS), and the Simple Shoulder Test (SST).

Results. For the 70 study participants (42 women and 28 men; mean [SD] age=54.1 years [9.0]; mean [SD] VAS score at baseline=6.4 [1.7]), there were no between-group differences at baseline in VAS, CMS, and SST scores. At the end of the 2-week intervention, participants in the HILT group showed a significantly greater decrease in pain than participants in the US therapy group. Statistically significant differences in change in pain, articular movement, functionality, and muscle strength (force-generating capacity) (VAS, CMS, and SST scores) were observed after 10 treatment sessions from the baseline for participants in the HILT group compared with participants in the US therapy group. In particular, only the difference in change of VAS score between groups (1.65 points) surpassed the accepted minimal clinically important difference for this tool.

Limitations. This study was limited by sample size, lack of a control or placebo group, and follow-up period.

Conclusions. Participants diagnosed with SAIS showed greater reduction in pain and improvement in articular movement functionality and muscle strength of the affected shoulder after 10 treatment sessions of HILT than did participants receiving US therapy over a period of 2 consecutive weeks.

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