

PS1.122

Comparison of the effectiveness of leech therapy and TENS therapy in the treatment of primary osteoarthritis of the knee: A randomized controlled study

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Background & Aim: The aim of this study was to evaluate the effects of leech therapy in the treatment of knee osteoarthritis in terms of duration of effectiveness and symptomatic relief, and to compare these results with TENS therapy.

Design: This study was designed as a prospective, single-centred, randomized, single-blind and parallel group study with the approval of Institutional ethics committee. A total of 90 patients, 46 in the leech group and 44 in the TENS group, completed the study. Primary outcome measures were the changes of the pain scores in VAS and WOMAC on the measurements day 0, 21, and 180. Secondary outcome measures were the changes of sub-groups of the scores of the WOMAC. Interventions: Five leeches were applied on the affected knee, once every week for three weeks.

Results: VAS pain score decreased in both groups similarly in the evaluation on day 21 ($p < 0.001$). The course of the change of VAS pain score in both groups was similar in the comparisons between groups. Long term benefits of TENS therapy group was slightly more than the leech therapy group. All the sub-scores of WOMAC in both therapy groups decreased similarly ($p = 0.819$) throughout the study ($p < 0.001$).

Conclusions: Leech therapy relieves symptoms in patients with osteoarthritis of the knee is as much effective as TENS therapy in the management of osteoarthritis of the knee and has the potential of being an additional or alternative therapy for the non-surgical management of osteoarthritis of the knee.