

A systematic review and meta-analysis of medical leech therapy for osteoarthritis of the knee.

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OBJECTIVES:

Osteoarthritis of the knee is a common chronic disease among older adults. Therapeutic approaches mainly consist of physiotherapy or pharmacological therapy, but these approaches are limited over time by their cost and/or side effects. This paper presents a systematic review and meta-analysis of the effectiveness of medical leech therapy for osteoarthritis of the knee.

METHODS:

The PubMed/MEDLINE, Cochrane Library, EMBASE, Scopus, and CAMBASE databases were screened in August 2012 to identify randomized (RCTs) and nonrandomized controlled clinical trials (CCTs) comparing leech therapy to control conditions. Main outcome measures were pain, functional impairment, and joint stiffness. For each outcome, standardized mean differences (SMD) and 95% confidence intervals were calculated.

RESULTS:

Three RCTs and 1 CCT were found, in which a total of 237 patients with osteoarthritis were included. Three trials had a low risk of bias. There was strong overall evidence for immediate (SMD=-1.05; P<0.01) and short-term pain reduction (SMD=-1.00; P<0.01), immediate improvement in patients' physical function (SMD=-0.72; P<0.01), and both immediate (SMD=-0.88; P=0.04) and long-term improvement in their joint stiffness (SMD=-0.62; P<0.01). Moderate evidence was found for leech therapy's short-term effects on physical function (SMD=-0.46; P<0.01) and long-term effects on pain (SMD=-0.45; P<0.01). Leech therapy was not associated with any serious adverse events.

DISCUSSION:

This systematic review found moderate to strong evidence for the reduction of pain, functional impairment, and joint stiffness after medical leech therapy in patients with osteoarthritis of the knee. Given the low number of reported adverse events, leech therapy may be a useful approach in treating this condition. Further high-quality RCTs are required for the conclusive judgment of its effectiveness and safety.

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