

INPLASY PROTOCOL

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Review Stage at time of this submission: Data analysis.

Conflicts of interest:
None declared.

Effect of acupuncture and moxibustion on cartilage in animal model of knee osteoarthritis: a systematic review and meta-analysis

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Review question / Objective: Participants: Animals with knee osteoarthritis established by various methods. Intervention: Receiving acupuncture treatment after modeling. Comparison: Untreated animal models of knee osteoarthritis (model group). Results: The cytokines included Cysteinyl aspartate specific proteinase-1 (caspase-1), caspase-3, B-cell lymphoma-2 (Bcl-2), BCL2 associated X The levels of protein (Bax), matrix metalloproteinase-13 (MMP-13), depolymerizing protein-like metalloproteinase-5 (ADAMST-5), osteoprotegerin (OPG), receptor activator of nuclear factor- κ B ligand (RANKL), Tunel cell apoptosis rate, cartilage Mankin's score, LequensneMG score, subchondral bone volume to total volume ratio (BS/TV), bone surface area/Bone volume ratio (BS/BV), average trabecular thickness (TbTh), average number of trabecular bone per unit length (TbN), and average distance between trabecular bone (cylindrical structure) (TB.sp).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 September 2022 and was last updated on 29 September 2022 (registration number INPLASY202290125).

INTRODUCTION

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between trabecular bone (cylindrical structure)(TB.sp).

Quality assessment / Risk of bias analysis:

The methodological quality of each included study was assessed by two authors using a 10-item checklist modified from the Collaborative Approach to Meta-Analysis and Review of Animal Data from Experimental Studies (CAMARADES) checklist: Sample size calculation; A statement describing temperature and humidity control; Randomization to treatment or control; Use a reasonable knee osteoarthritis model; Assess the success of the model; The use of anesthetics with no obvious specificity; Results Blind method; Comply with animal ethics regulations; Published in a peer-reviewed journal; Declare no potential conflicts of interest.. The sum of the quality scores was recorded for each article, with a possible total score of 10 points.

Strategy of data synthesis: Review Manager 5.4 was used for statistical analysis of the data . First, the heterogeneity test was performed. When the studies were homogenous ($P \geq 0.05$, $I^2 \leq 50\%$), the fixed-effects model (FE) was used for analysis. If there was significant heterogeneity among the studies ($P < 0.05$, $I^2 > 50\%$), a random-effects model (RE) was used for the analysis, and a sensitivity analysis was performed to examine the sources of heterogeneity and to assess the stability of the results. The outcome indicators of this study were all continuous variables, and their outcomes were expressed by standard mean difference (SMD) and 95% confidence interval (95% CI). The 95% CI did not contain 0, indicating that the results were statistically different ($P < 0.05$), and finally a funnel plot was used to analyze potential publication bias.

Subgroup analysis: In order to observe the effect of different acupuncture prescriptions on the results when measuring the outcomes of the mankin's score, we set up subgroups according to different acupoint combinations, acupuncture methods, and treatment

courses. Sensitivity analysis: If random-effects model (RE) was used for the analysis, and a sensitivity analysis was performed to examine the sources of heterogeneity and to assess the stability of the results.

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Country(ies) involved: China.

Keywords: Acupuncture; Knee osteoarthritis; Cartilage. Cytokines; Animal model; Meta analysis.

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