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Randomized controlled trial for the treatment of chronic dorsal wrist pain with dextrose prolotherapy

R. Allen Hooper , Kevin Hildebrand, Peter Faris, Myra Westaway & Elizabeth Freiheit

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Abstract

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Translator disclaimer Objective

To compare the results of treating chronic dorsal wrist pain with lidocaine (placebo) versus lidocaine/dextrose (dextrose) injection.

Methods

Of the 98 patients screened, 39 were entered into the trial. Patients were assessed at baseline, 3 and 12 months post-treatment with Patient Rated Wrist Evaluation (PRWE), range of motion, and grip strength. Injections were completed monthly, up to a total of six treatments. Injections to the periscaphoid, and perilunate ligaments, using a peppering technique, for a total of 1 ml at each site, with 1% lidocaine or a mixture of 0.60% lidocaine and 20% dextrose were given. Blinding was done at all stages of the trial for the patient, study coordinator, prolotherapist, patient outcome measures, and statistician.

Results

Twenty patients were assigned to the dextrose solution, and 19 patients were assigned to the placebo solution. There was no

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statistically significant difference in the PRWE change scores between the dextrose group and the placebo group ($P = 0.483$) at 3 months. At 12 months, the adjusted mean reduction in scores was 31.0 for patients treated with dextrose, and 20.9 for those treated with the placebo solution. This difference of 10.1 was a statistically significant effect, with a P -value of 0.043, but is smaller than the minimal clinically important difference of 20 points defined by MacDermid *et al.* Grip strength and range of motion showed no statistically significant difference between the two treatment groups throughout study.

Conclusions

Due to the large treatment effect in the placebo group, it was very unlikely with further enrollment that a clinically significant change of greater than 20 on the PRWE would be found and the trial was discontinued. The efficacy of prolotherapy injections with an active agent relative to a control solution, therefore, has not yet been established. Further studies are needed to compare a treatment group with a non-injection group, subcutaneous needle injection, or dry needling.

Keywords: [Wrist pain](#), [Prolotherapy](#), [Randomized controlled trial](#)

Additional information

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