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Dextrose Prolotherapy Decreases Pain and Stiffness in Knee Degenerative Joint Disease

Clinical Question

Is dextrose prolotherapy effective in treating patients with degenerative joint disease of the knee?

Bottom Line

Dextrose prolotherapy appears to be more effective in decreasing pain and stiffness, and improving function in patients with knee degenerative joint disease than saline injections and home exercise. (Level of Evidence = 1b)

Synopsis

Prolotherapy involves injecting nonmedical irritants into musculoskeletal tissues to promote healing. Some report that it has been around for a few millennia but was rediscovered in the 1930s. These researchers compared dextrose prolotherapy (n = 30) with saline (n = 29) and home exercise (n = 31) in adults with moderate to severe pain and radiographically confirmed degenerative joint disease of the knee. The researchers' pharmacy prepared syringes of saline or dextrose, covering them with opaque paper sleeves to conceal the contents from the physician and the patient. The study has lengthy details on the dextrose concentrations and volume of solution used (largely based on

intraarticular and extraarticular injection). The injections were administered at one, five, and nine weeks, with optional sessions at 13 and 17 weeks. These latter injections were based on physician recommendation and not patient preference. The researchers offered a dose of opiates before each injection, as well as opiates for one week afterward. Additionally, the patients were told to rest the knee for two days after the injection.

Researchers, who were masked to treatment group assignment, evaluated the patients at baseline; before any interventions; and at five, nine, and 12 weeks. Masked researchers also conducted telephone follow-up at 26 and 52 weeks. At the end of the study, patients in all three treatment groups improved, but the degree of improvement on an arthritis-specific scale (overall, pain, stiffness, and function) was greater in the prolotherapy-treated patients. Although the magnitude of improvement appears to be clinically important, 91% of prolotherapy-treated patients, 82% of saline-treated patients, and 89% of home exercise-treated patients would recommend their treatment to others.

Study Information

Study design: Randomized controlled trial (double-blinded)

Funding source: Government

Allocation: Concealed

Setting: Outpatient (any)

Reference: Rabago D, Patterson JJ, Mundt M, et al. Dextrose prolotherapy for knee osteoarthritis: a randomized controlled trial. *Ann Fam Med.* 2013; 11(3):229-237.

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