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The effects of dextrose prolotherapy in symptomatic knee osteoarthritis: A randomized controlled study

The objective of this study was to investigate the effects of dextrose prolotherapy in patients with knee osteoarthritis (KOA). The study included 66 patients aged 40–70 years with chronic knee pain refractory to conservative therapy and diagnosed as Grade II or III KOA according to the Kellgren–Lawrence classification. The patients were assigned to the dextrose prolotherapy group (PG; n = 22), saline group (SG; n = 22), or control group (CG; n = 22). The intra- and extra-articular dextrose prolotherapy and saline injections were administered to the PG and SG, respectively, at 0, 3, and 6 weeks. The patients were blinded to their injection group status. A home-based exercise program was prescribed for all patients in three groups. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scores, activity pain, stiffness severity measured using a visual analog scale (VAS), and the health-related quality of life (HRQoL) scores measured using the Short Form-36 (SF-36) subscales were recorded at the baseline at the baseline, six-week, and 18-week follow-ups. The WOMAC-pain and VAS-activity pain scores decreased significantly in the PG compared to the SG (P = 0.002 and P < 0.001, respectively) and CG (P < 0.001 and P < 0.001, respectively) at 18 weeks. The WOMAC-stiffness scores decreased in the PG compared to the CG at 18 weeks (P < 0.001). The WOMAC physical functioning scores were improved in the PG compared to the CG at 18 weeks (P < 0.001). The physical component scores of the HRQoL were significantly improved in the PG compared to the CG at 18 weeks (P = 0.016), but the mental component scores of the HRQoL showed no significant differences. These findings suggest that dextrose prolotherapy is effective at reducing pain and improving the functional status and quality of life of patients with KOA.