



Original Article

A Comparative Study of Short-Term Efficacy of Intra-articular Hypertonic Saline and Hypertonic Dextrose Prolotherapy in Knee Osteoarthritis: A Randomized Controlled Trial (RCT)

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ABSTRACT

Background: Knee osteoarthritis (KOA) is a common public health disease with an increasing prevalence. It is one of the leading causes of disability, especially in the elderly. Intra-articular hypertonic dextrose prolotherapy is one of the therapies used for KOA. There have been some articles indicating that patients receiving intra-articular normal saline as a control group of the article had improvement as well. The aim of this randomized clinical trial study was to evaluate the efficacy of intra-articular hypertonic saline in comparison with hypertonic dextrose prolotherapy in treatment of KOA.

Methods: A total of 54 patients with KOA were randomized in two groups: hypertonic dextrose (28 patients) and hypertonic saline groups (26 patients). All patients received three intra-articular injections of either hypertonic dextrose or hypertonic saline at two weeks intervals. The values obtained by visual analogue pain scale (VAS), Oxford knee scale (OKS), and Western Ontario McMaster University Osteoarthritis Index (WOMAC) questionnaire were the outcome measures which were evaluated before, as well as 2 and 4 weeks after the injections. The data were analyzed using t-test and repeated measurement tests.

Results: Both groups revealed improvements in outcome measures after 2 and 4 weeks of intervention. However, no statistically significant difference was found between the two groups.

Conclusion: We concluded that the intra-articular injection of hypertonic dextrose and hypertonic saline are both effective in the management of KOA. Hypertonic saline can be considered as another medical agent in management of KOA. However, further studies are suggested to evaluate its long-term effects.

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Introduction

Knee osteoarthritis (KOA) is one of the common diseases with detrimental effects of movability, especially in the elderly. Pain and stiffness are the most common

symptoms of the disease which compel the patient to seek treatment [1, 2]. Although many pharmacological and non-pharmacological treatments have been proposed, safe and effective management is still one of the research priorities [1]. Intra-articular and peri-articular injection in the knee is one of the treatments that can be proposed for KOA. Many substances such as platelet rich plasma (PRP), hyaluronic acid, methylprednisolone, human platelet lysate, etc. are used for intra-articular knee

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seen even two weeks after the injection of hypertonic saline, it can be considered as another medical agent for knee osteoarthritis pain management and life quality improvement. However, further investigation is required to evaluate the effect of hypertonic saline on the knee osteoarthritis in the long-term.

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Conflict of Interest: None declared.

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