



Comment on: Efficacy of dextrose prolotherapy on temporomandibular disorder

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To the Editor,

It is with interest that we read the study of Park et al.¹ on the efficacy of prolotherapy in temporomandibular disorder (TMD) in *Journal of the Korean Association of Oral and Maxillofacial Surgeons*. They found that hypertonic temporomandibular joint (TMJ) prolotherapy is an effective intervention for TMJ disorders with chronic pain regardless of the main origin of TMD symptoms.

We would like to offer a few insights on their methods and study in a bid to add to the literature. Prolotherapy with dextrose is aimed at addressing issues of the soft tissue (e.g., ligaments, tendons) in and around the joint. While its mechanism is not well elucidated, it is believed to stimulate the body's natural healing process and achieve subsequent pain control through the initiation of a temporary inflammatory reaction with tissue proliferation. Emerging literature suggests that its effects are multifactorial and sensorineural².

Arthrocentesis followed by injection of steroids/sodium hyaluronate and injection of Botox have specific indications in TMDs, as does prolotherapy. The authors have combined the categories of TMJ disorders and included patients with para-functional habits (bruxism or clenching) and those with clicking, crepitus, and popping in the inclusion criteria. Grouping cases within a broad umbrella without identifying the root aetiology of the TMD may not advance the cause of prolotherapy. The retrospective nature of the study makes it prone to bias with limited control over sampling and the quality of predictor variables.

Another concern that we wish to highlight is the use of lidocaine in the solution injected. There is sufficient evidence to suggest that even a single intra-articular injection of local anaesthetic has apoptotic effects on chondrocytes, leading to degenerative changes in the articular structures of the TMJ³. Dextrose alone at a concentration of 10%-25% is sufficient to induce fibrosis and stimulate reparative effects. Moreover, there is no evidence of improvement in the range of motion of the mandible with intra-articular administration of local anaesthesia⁴. While prolotherapy is superior to injecting a placebo⁵, this 'one size fits all' approach does not apply to the complex plethora of TMDs, and the results of this retrospective study should be interpreted with caution. Larger inter-institutional randomised control trials with stringent inclusion criteria and longer follow-up are warranted to understand the efficacy of prolotherapy in pain and mouth-opening in a curated set of patients with TMDs.

Author's Contributions

Y.P.M. conceived the letter and prepared, reviewed, and approved the manuscript.

Funding

No funding to declare.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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How to cite this article: Merchant YP. Comment on: Efficacy of dextrose prolotherapy on temporomandibular disorder. *J Korean Assoc Oral Maxillofac Surg* 2025;51:67-68. <https://doi.org/10.5125/jkaoms.2025.51.1.67>