

Effect of intraarticular drug injection in patients with temporomandibular disorders with limited mouth opening: a network meta-analysis

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ADMINISTRATIVE INFORMATION

Support - No.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202450107

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 May 2024 and was last updated on 22 May 2024.

INTRODUCTION

Review question / Objective The efficacy of intra-articular drug injection treatment for patients with temporomandibular joint disorder.

Condition being studied Temporomandibular joint disorder, also known as TMJ disorder, is a common oral condition with a complex etiology. It is often caused by a variety of factors, including misalignment of the bite, displacement of the joint disc, and wear or degeneration of the joint. Biomechanical factors, which relate to how muscles and bones interact in terms of force and movement, play a crucial role in the development of temporomandibular joint disorders. One of the most notable symptoms of this condition is limited mouth opening, where patients experience difficulty or pain when trying to open

their mouth wide. This limitation affects not only basic oral functions such as chewing and speaking but can also lead to ear pain, headaches, and even facial pain. Over time, limited mouth opening can severely affect a patient's quality of life, restricting social activities and impacting diet and speech expression. Due to the complex causes of temporomandibular joint disorders, treatment often requires a multidisciplinary approach, which may include physical therapy, orthodontics, medication, and even surgery. The goal of treatment is to alleviate pain, restore normal joint function, and improve the patient's overall quality of life. For patients, timely diagnosis and a personalized treatment plan are key to managing this chronic condition and reducing its impact on life. Temporomandibular joint disorder is a common oral disease with complex etiology, where biomechanical factors play a significant role. Limited mouth opening is a major

clinical manifestation of this condition, which severely affects the quality of life of the patients.

METHODS

Participant or population Temporomandibular joint disorder patient.

Intervention Intra-articular injection of hyaluronic acid, injection of platelet-rich fibrin, platelet-rich plasma, and platelet-derived growth factor.

Comparator Blank control.

Study designs to be included RCTs and observational studies.

Eligibility criteria Patients diagnosed with temporomandibular joint disorder , intra-articular injections.

Information sources PubMed、EMbase、Cochrane Library、Web of Science.

Main outcome(s) The assessment of therapeutic effects is primarily based on the following three key indicators: improvement in limited mouth opening, alleviation of joint pain, and recovery of joint function. Specifically, short-term studies have found that intra-articular drug injections can effectively alleviate patients' symptoms of limited mouth opening and improve the range of mouth opening. In terms of alleviating joint pain, similarly in the short term, drug injections can significantly reduce patients' pain and improve their quality of life. Regarding the recovery of joint function, the studies indicate that injection therapy can help patients regain normal joint mobility to some extent.

Quality assessment / Risk of bias analysis Include the Cochrane Risk of Bias Assessment Tool and tNewcastle-Ottawa Scale (NOS).

Strategy of data synthesis We conducted a meta-analysis using Stata 15.0 software to quantitatively synthesize the efficacy of intra-articular drug injection treatment for temporomandibular joint disorders. By calculating the weighted mean effect size and its 95% confidence interval, we assessed the statistical consistency of various outcome measures.

Subgroup analysis No.

Sensitivity analysis No.

Country(ies) involved China.

Keywords temporomandibular disorders, mouth opening restriction, Injections, Intra-Articular.

Contributions of each author

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