

CORRELATION BETWEEN TMJ MRI FINDINGS OF THE TWO SIDES: A SYSTEMATIC REVIEW OF THE LITERATURE

Objective:

The aim of this paper is to highlight the presence of articles which compare by magnetic resonance (MRI) evaluation the left and right temporomandibular joint of the same patient.

Materials and methods:

In February 2023, a systematic research of literature in the main search engines (Pubmed, Medline, web of science) was carried out to identify all peer-reviewed English-language studies presenting a comparison of left and right TMJ sides in the same patients. A PICO-like selection of the articles was performed. The review was then structured following PRISMA guidelines.

Results:

The search term "temporomandibular joint AND magnetic AND resonance" carried out 2561 results. Of them 3 fulfilled the inclusion criteria. The results of the papers included in the systematic review are not comparable due to the different aims in the evaluation of temporomandibular joints. Manfredini et al. highlighted a statistical correlation between disc displacement, osseous changes, and joint effusion within the same joint and between joints of the contralateral sides. Koca et al. pointed out a relationship between pain and MRI findings. Meanwhile, Chu et al. revealed that 3D MRI reconstruction visualized in a single image aids the understanding of TMJ dysfunction in patients with TMD.

Conclusion:

The literature concerning the correlation between the right and the left TMJ is still scarce; very few articles report a comparative analysis of the two sides of the temporomandibular joints in individual patients. As far as could be observed, most of the articles concerning the research rationale, study the joint by evaluating ipsilateral correlations or by serial analysis of only one side of the anatomical structure, never evaluating the TMJ in its entirety.

Keywords: TMJ, magnetic resonance imaging, temporomandibular joint disorders.