

Clinical outcomes in TMD patients after arthrocentesis with lysis, lavage and viscosupplementation

J. R. Ferreira, M. A. Nunes & F. Salvado

To cite this article: J. R. Ferreira, M. A. Nunes & F. Salvado (2021) Clinical outcomes in TMD patients after arthrocentesis with lysis, lavage and viscosupplementation, *Annals of Medicine*, 53:sup1, S87-S88, DOI: [10.1080/07853890.2021.1897446](https://doi.org/10.1080/07853890.2021.1897446)

To link to this article: <https://doi.org/10.1080/07853890.2021.1897446>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 28 Sep 2021.



Submit your article to this journal [↗](#)



Article views: 47



View related articles [↗](#)



View Crossmark data [↗](#)

determined by the physical exam and/or computer tomography. Statistical significance was defined as $p < .05$. Chi-square, Student *t*-test, ANOVA and log-linear analysis were used as appropriate. All were performed using IBM SPSS® version 23.

Results: A total of 147 patients were included in the sample, 95 (64.6%) females and 52 (35.4%) males, with a mean age at diagnosis of 68.12 ± 11.02 years. A total of 182 lesions were diagnosed, 67 (36.8%) in the maxilla and 115 (63.2%) in the mandible. The molars and premolars regions were most affected both in the maxilla (1st and 3rd sextants) with 46 (68.7%) lesions, and in the mandible (4th and 6th sextants) with 96 lesions (83.4%). The alveolar bone was affected in 170 (93.9%) the lesions, whereas 18 (9.9%) had involvement of the basal bone, 7 (3.8%) arose in the mylohyoid line and only 5 (2.7%) occurred in the hard palate. At least one of the cortical walls was involved in 125 (68.7%) lesions, the buccal wall in 53 (29.1%) lesions, the palatal or lingual wall in 32 (17.6%) lesions and both walls in 40 (22%) lesions. Male patients were more likely to have multiple lesions located both in the maxilla and mandible (17.3%) than female patients (5.3%) ($p < .017$). In absence of any traumatic factor, periodontal disease was found in 34.4% of patients with anterior lesion location (2nd or 5th sextants) vs 10.2% with posterior lesion location, although not statistically significant ($p < .89$). We found no statistically significant differences or association between lesion location or lesion extension and dentoalveolar surgery, use of dental prosthesis, age at diagnosis, type of drug and length of antiresorptive or antiangiogenic medication.

Discussion and conclusions: MRONJ lesions were more frequently located in the mandible as expected from previous studies [2,3]. The molars and premolars regions were most affected and at least one cortical wall was involved in most lesions. Some authors have concluded that areas with thin mucosa are more susceptible, our results are in accordance as we identified several lesions in the mylohyoid line [3]. Our study results can reflect the importance of anatomical factors such as occlusal forces, blood supply and bone density vary in these locations.

CONTACT J. A. Correia ✉ joao.andre.correia90@gmail.com

References

- [1] Ruggiero S, Dodson T, Fantasia J, et al. American Association of Oral and Maxillofacial Surgeons position paper on medication-related osteonecrosis of the jaw-2014 update. *J Oral Maxillofac Surg.* 2014;72(10):1938–1956.
- [2] Martins AS, Correia JA, Salvado F, Caldas C, et al. Relevant factors for treatment outcome and time to healing in medication related osteonecrosis of the jaws – a retrospective cohort study. *J Cranio-Maxillo-Facial Surgery.* 2017;45(10):1736–1742.
- [3] Furtado I, Caldas C, Lança F, et al. Anatomic factors related to bisphosphonate osteonecrosis of the jaws: a portuguese retrospective study. *Acta Med Port.* 2012;25(2):106–110

DOI: 10.1080/07853890.2021.1897445

Clinical outcomes in TMD patients after arthrocentesis with lysis, lavage and viscosupplementation

J. R. Ferreira^{a,b}, M. A. Nunes^{a,b} and F. Salvado^{a,b,c}

^aUniversidade de Lisboa, Faculdade de Medicina, Clínica Universitária de Estomatologia, Avenida Professor Egas Moniz, Lisboa, Portugal; ^bStomatology and Oral Surgery Department, Centro Hospitalar Universitário Lisboa Norte; ^cCentro de Investigação Interdisciplinar Egas Moniz (CiiEM), Egas Moniz Cooperativa de Ensino Superior, Caparica, Portugal

ABSTRACT

Introduction: Temporomandibular disorders (TMD) affect a considerable part of the population [1]. Its most prominent symptoms are restricted joint function with limited maximum mouth opening (MMO), pain and headache, with an important impact on Quality of Life [2,3]. The aim of this study is to evaluate the effect of Arthrocentesis with Lysis, Lavage and Viscosupplementation (ALLV) with hyaluronic acid in the treatment of pain related to TMJ internal derangements.

Materials and methods: Thirty patients diagnosed with internal derangement of the temporomandibular joint through magnetic resonance imaging were submitted to ALLV, after 6 months of ineffective conservative treatment. A classic, single session, two-needle technique arthrocentesis was performed in all cases, encompassing the injection of 200–300 mL of Ringer lactate solution to the superior joint compartment for lysis and lavage, followed by intra-articular injection of 1 mL of hyaluronic acid for viscosupplementation [4,5]. Patients were prescribed a simple program of physical exercises to be repeated daily at home for one month.

Evaluation was carried pre-operatively on the day of surgery and post-operatively at 1 week, 1 month, 3 months, 6 months and 12 months after the procedure. Evaluated clinical parameters included: pain (at rest and in function) – Visual Analogic Scale (VAS); maximum mouth opening (MMO) – millimetres (mm); mastication efficiency – VAS. Overall tolerability of the procedure (Likert scale: 0–4) was evaluated at 1-week post-operative time.

Data was collected between September 2016 and May 2019.

Statistical significance was set at $p < .05$. Paired *t*-tests were used to compare pre- and post-operative pain, MMO and

mastication efficiency. Statistical procedures were performed using IBM® SPSS® Statistics – Version 24 and Microsoft® Excel for Mac – Version 16.15.

Results: Twenty-six of the selected patients were women and mean age was 38.86 ± 17.5 years old. In all cases a single side TMJ was treated – 14 left and 16 right. MRI had shown anterior disc displacement (ADD) with complete reduction on opening in 15 patients, without reduction in 9 and with partial reduction in 6. Results show an improvement in pain, both at rest and in function, MMO and mastication efficiency at a statistically significant level, up to 12 months post-operative. The procedure was considered well tolerated (mean Likert: 3.15 ± 1.13) and no adverse events were reported.

Discussion and conclusions: ALLV is a safe, well tolerated and cost-effective minimally invasive procedure, which proves to reduce pain and functional impairment up to 12 months post-operative, with little or no complications [6,7].

CONTACT J. R. Ferreira  jrvieiraferreira@gmail.com

References

- [1] Emes Y, Arpınar IŞ, Oncü B, et al. The next step in the treatment of persistent temporomandibular joint pain following arthrocentesis: a retrospective study of 18 cases. *J Craniomaxillofac Surg.* 2014;42(5):e65–e69.
- [2] Kuruvilla V, Prasad K. Arthrocentesis in TMJ internal derangement: a prospective study. *J Maxillofac Oral Surg.* 2012; 11(1):53–56.
- [3] Stegenga B. Nomenclature and classification of temporomandibular joint disorders. *J Oral Rehabil.* 2010;37(10):760–765.
- [4] Nitzan DW, Dolwick MF, Martinez GA. Temporomandibular joint arthrocentesis: a simplified treatment for severe, limited mouth opening. *J Oral Maxillofac Surg.* 1991;49(11):1163–1167.
- [5] Guarda-Nardini L, Manfredini D, Ferronato G. Arthrocentesis of the temporomandibular joint: a proposal for a single-needle technique. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2008;106(4):483–486.
- [6] Malik A, Shah A. Efficacy of temporomandibular joint arthrocentesis on mouth opening and pain in the treatment of internal derangement of TMJ-A clinical study. *J Maxillofac Oral Surg.* 2014;13(3):244–248.
- [7] Vos LM, Stegenga B, Stant AD, et al. Cost effectiveness of arthrocentesis compared to conservative therapy for arthralgia of the temporomandibular joint: a randomized controlled trial. *J Oral Facial Pain Headache.* 2018;32(2):198–207.

DOI: 10.1080/07853890.2021.1897446

Collateral circulation in the obstruction of the superior vena cava flow

J. Ovelar, J. Cédola and J. Merino

CIMED FUNDAMI Digital Anatomy Laboratory, La Plata, Buenos Aires, Argentina

ABSTRACT

Introduction: By means of virtual reconstructions obtained from the data provided by the different Multislice Computed Venotomographies (MCVT) [1–3] performed in our institution during the period from 2015 to date, a total of 14 patients with different pathologies (oncological, venous thrombosis by port-a-cath catheter, etc.) were evaluated, which showed signs of obstruction of the superior vena cava and collateral circulation.

The aim is demonstrating a venous shunt pattern in cases of Superior Vena Cava obstruction by virtual representation of the collateral circulation in acute or chronic stage.

Materials and methods: Sixty-four detector Phillips Multislice tomograph and process the data using IntelliSpace Portal (specialized Phillips software).

Results: The collateral circulation network chosen depended mainly on whether or not the Azygous vein was compromised and the time of evolution of the obstruction [4].

From this, it is possible delimit two circuits: an anterior collateral drainage and a posterior collateral drainage. The posterior circuit is presented principally in acute cases, with the indemnity of the root of the Azygous Vein and through the intercostal veins, vertebral plexuses, the Azygos system, Hemi-azygous, and accessory.

Whereas, the anterior circuit is mainly presented by the obstruction of the Superior Vena Cava and the Azygous too, or in chronic situations of obstruction of the SVC [5], either by means of anterior thoracic collateral, middle and/or lateral, that through superficial or deep venous tributaries return the venous flow to the central circulation by the Inferior Vena Cava.

Discussion and conclusions: The knowledge of the venous anatomy, through virtual representations, allow to understand the collateral circulation and its patterns in cases of obstruction of the Superior Vena Cava [6].

CONTACT J. Merino  lad.3d.lp@gmail.com