Sanitas
Revista arbitrada de ciencias de la salud
Vol. 3(2), 14-19, 2024
https://doi.org/10.62574/ve3dz423

Surgical management of an anomalous lingual frenulum

Manejo quirúrgico de un frenillo lingual anómalo

Ángel Fabricio Villacis-Tapia
ua.angelvillacis@uniandes.edu.ec
Universidad Regional Autónoma de Los Andes. UNIANDES, Ambato, Tungurahua, Ecuador
https://orcid.org/0000-0003-3062-8790

ABSTRACT

Objective: To analyse the surgical management of an anomalous lingual frenulum. **Methods**: A descriptive document analysis was carried out, supported by the systemic review technique. **Results and conclusion**: Section of the frenulum resolves the anatomical difficulty, but correct use of the tongue requires postoperative functional rehabilitation. It is concluded that long lingual frenulae are capable of producing recession in the lingual area, due to the traction they exert. In other words, there is a direct relationship between the height and insertion of the frenulum with respect to papillary loss and the presence of gingival recession. High intensity laser therapy is a good alternative to the conventional technique.

Descriptors: lingual frenum; dentition; periodontium. (Source, DeCS).

RESUMEN

Objetivo: analizar el manejo quirúrgico de un frenillo lingual anómalo. **Método**: Se llevó a cabo un análisis descriptivo de documentos respaldado por la técnica de revisión sistémica. **Resultados y conclusión**: La sección del frenillo resuelve la dificultad anatómica, pero la correcta utilización de la lengua requiere una rehabilitación funcional post-operatoria. Se concluye que los frenillos linguales largos son capaces de producir recesión en la zona lingual, debido a la tracción que ejerce. Es decir, posee una relación directa entre la altura e inserción del frenillo con respecto a la pérdida papilar y la presencia de recesiones gingivales. La terapia con láser de alta intensidad constituye una buena alternativa a la técnica convencional.

Descriptores: frenillo lingual; dentición; periodoncio. (Fuente, DeCS).

Received: 27/02/2023. Revised: 04/03/2023. Approved: 08/03/2023. Published: 01/05/2024.

Brief original

INTRODUCTION

A lingual frenulum, either short or long, can restrict the natural movement of the tongue due to a developmental abnormality. When a clinical diagnosis is made, it is observed that the tongue does not reach the hard palate or the incisal edges of the upper teeth when the mouth is fully opened. In some cases, considered mild to moderate, when attempting to extend the tip of the tongue, the tongue takes on the shape of a heart and may have an ischaemic area, indicative of a lack of blood supply. [1 2 3]

The term ‘tongue-tie’ is used to describe this condition where tongue movement is restricted. This restriction is often associated with a prolonged tongue frenulum, also known as ‘tongue tie’. The solution often involves a frenectomy, a procedure that involves elevating the tongue to expose the frenulum. The use of electroscalpel is considered a safer and more effective option in soft tissue surgery, as it reduces the risk of bleeding, eliminates the need for sutures, requires less surgical time, minimises the chance of postoperative infection and avoids visible scarring. [4 5 6 7 8]

In view of the above, the aim of this paper is to analyse the surgical management of an anomalous lingual frenulum.

METHOD

A descriptive document analysis supported by the systemic review technique was carried out.

The documentary sample consisted of 15 scientific articles extracted from sources such as PubMed and Scopus. The collected data were subjected to a documentary content analysis for further processing.

RESULTS

After analysing the surgical management of an anomalous lingual frenulum, a discussion arises around several relevant aspects in the dental field. Firstly, it is crucial to consider the importance of a thorough and accurate evaluation of the lingual frenulum to determine the need and type of surgical intervention required. This assessment should encompass not only the length of the frenulum, but also its relationship to surrounding structures and its impact on lingual function and overall oral health. [9] [10]

It is essential to highlight the diversity of surgical techniques available to address the anomalous lingual frenulum. From conventional frenectomy to the use of advanced techniques such as electroscalpel, each approach has its own advantages and considerations. The choice of the most appropriate technique should be based on a careful assessment of the patient's individual needs, as well as the experience and skills of the practitioner performing the procedure. [11] [12]

Another relevant aspect to discuss is the impact of the surgical intervention on the patient's long-term tongue function and quality of life. While correction of the anomalous lingual frenulum may improve tongue mobility and reduce associated problems, it is also important to consider possible side effects and complications, such as postoperative pain, scar formation and recurrence of the problem. In this context, it is crucial to emphasise the importance of careful and continuous follow-up of the patient after surgery to monitor progress and address any problems that may arise, and it is essential to educate the patient on the importance of proper oral hygiene and tongue rehabilitation exercises to optimise long-term results. [13]

Therefore; the surgical management of the anomalous lingual frenulum presents a number of important considerations that must be taken into account to ensure optimal outcomes and patient satisfaction. From initial evaluation to postoperative follow-up, each step of the process must be performed with care and attention to

achieve the best possible results in terms of tongue function and patient quality of life. [14 15]

CONCLUSION

Frenulum section solves the anatomical difficulty, but correct tongue use requires postoperative functional rehabilitation. It is concluded that long lingual frenulae are capable of producing recession in the lingual area, due to the traction they exert. In other words, there is a direct relationship between the height and insertion of the frenulum with respect to papillary loss and the presence of gingival recession. High intensity laser therapy is a good alternative to the conventional technique.

FUNDING

Non-monetary

CONFLICT OF INTEREST

There is no conflict of interest with persons or institutions involved in the research.

ACKNOWLEDGEMENTS

To the research department of UNIANDES.

REFERENCES

1. Fioravanti M, Zara F, Vozza I, Polimeni A, Sfasciotti GL. The Efficacy of Lingual Laser Frenectomy in Pediatric OSAS: A Randomized Double-Blinded and Controlled Clinical Study. *Int J Environ Res Public Health*. 2021;18(11):6112. Published 2021 Jun 6. doi:10.3390/ijerph18116112
2. Ahn JH, Newton T, Campbell C. Labial frenectomy: current clinical practice of orthodontists in the United Kingdom. *Angle Orthod*. 2022;92(6):780-786. doi:10.2319/011822-56.1
3. Protásio ACR, Galvão EL, Falci SGM. Laser Techniques or Scalpel Incision for Labial Frenectomy: A Meta-analysis. *J Maxillofac Oral Surg*. 2019;18(4):490-499. doi:10.1007/s12663-019-01196-y
4. Binti Zaaba NAA, Rajasekar A, Kk SS. Evaluation of healing following frenectomy. *Bioinformation*. 2021;17(12):1138-1143. Published 2021 Dec 31. doi:10.6026/973206300171138

5. Savtchen LAO, Silva CM, Sanglard LF, Cypriano RV, Leal AL, Cançado RP. Ranula Formation After Lingual Frenectomy in a Newborn. *J Dent Child (Chic)*. 2023;90(2):111-115.
6. Nammour S. Laser-Assisted Tongue-Tie Frenectomy for Orthodontic Purpose: To Suture or Not to Suture?. *Photobiomodul Photomed Laser Surg*. 2019;37(7):381-382. doi:10.1089/photob.2019.4647
7. Sæthre T, Berg E, Bunæs DF, Leknes KN. Complication following frenectomy: A case report. *Clin Case Rep*. 2021;9(10):e04888. Published 2021 Oct 4. doi:10.1002/ccr3.4888
8. Pares Perfetti A, Guada Melet NV, Castillo Páez JA. Frenectomía lingual con láser ND:YAG. reporte de caso [Lingual frenectomy with ND:YAG laser. case report]. *Rev Cient Odontol (Lima)*. 2023;11(2):e158. Published 2023 Jun 29. doi:10.21142/2523-2754-1102-2023-158
9. Xie L, Wang P, Ding Y, Zhang L. Comparative frenectomy with conventional scalpel and dual-waved laser in labial frenulum. *World J Pediatr Surg*. 2022;5(1):e000363. doi:10.1136/wjps-2021-000363
10. Varadan M, Chopra A, Sanghavi AD, Sivaraman K, Gupta K. Etiology and clinical recommendations to manage the complications following lingual frenectomy: A critical review. *J Stomatol Oral Maxillofac Surg*. 2019;120(6):549-553. doi:10.1016/j.jormas.2019.06.003
11. Murias I, Grzech-Leśniak K, Murias A, et al. Efficacy of Various Laser Wavelengths in the Surgical Treatment of Ankyloglossia: A Systematic Review. *Life (Basel)*. 2022;12(4):558. Published 2022 Apr 8. doi:10.3390/life12040558
12. Baxter R, Merkel-Walsh R, Baxter BS, Lashley A, Rendell NR. Functional Improvements of Speech, Feeding, and Sleep After Lingual Frenectomy Tongue-Tie Release: A Prospective Cohort Study. *Clin Pediatr (Phila)*. 2020;59(9-10):885-892. doi:10.1177/0009922820928055
13. Hatami A, Dreyer CW, Meade MJ, Kaur S. Effectiveness of tongue-tie assessment tools in diagnosing and fulfilling lingual frenectomy criteria: a systematic review. *Aust Dent J*. 2022;67(3):212-219. doi:10.1111/adj.12921
14. Dioguardi M, Ballini A, Quarta C, et al. Labial Frenectomy using Laser: A Scoping Review. *Int J Dent*. 2023;2023:7321735. Published 2023 Apr 30. doi:10.1155/2023/7321735
15. Dare S, Shirbhate U, Bajaj P. Management of Tongue-Tie Using Diode Laser for Speech Clarity: A Case Report. *Cureus*. 2023;15(10):e46667. Published 2023 Oct 8. doi:10.7759/cureus.46667