

Bilateral Plica Fimbriata Variation of the Tongue: A Case Report

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ABSTRACT

Aim This case report aims to underscore the significance of recognizing the morphological variations of the plica fimbriata (PF) and integrating thorough observations into clinical protocols for comprehensive oral care.

Case Report A 24-year-old female patient presented with bilateral PF during a routine dental examination, showing distinct morphological differences between the two sides. Clinical evaluation revealed dental caries, but no signs of irritation or contact between the PFs and teeth were observed. Treatment involved restorative procedures for dental caries and instructions on maintaining oral hygiene. The asymptomatic PFs were deemed clinically insignificant, requiring no immediate intervention.

Discussion PF, an often-overlooked anatomical structure, plays a crucial role in oral health. Recent insights suggest its association with the salivary gland system, emphasizing its potential implications beyond structural existence. PF-related issues can lead to discomfort, highlighting the importance of patient education and multidimensional management approaches.

Conclusion Recognizing the varied morphologies of PF is essential for optimal patient care. Integrating thorough observations into clinical protocols enhances diagnostic accuracy and contributes to improved oral health outcomes. This case report underscores the significance of PF in oral health and emphasizes the need for comprehensive management strategies.

Keywords Benign, CBCT, Cemento-ossifying fibroma, Mandible, Odontogenic tumor

Introduction

The plica fimbriata (PF), an often-overlooked anatomical feature beneath the tongue is positioned adjacent to the lingual frenulum within the horseshoe-shaped floor of the mouth. PF comprises raised folds facilitating saliva drainage from the sublingual and submandibular glands into the oral cavity. The PF consists of elevated crests of mucous membrane on either side of the lingual frenulum, forming the floor of the mouth. Although variations exist in its appearance among individuals, such as fringe-like processes or small triangular flaps, these structures are normal residual tissues resulting from tongue development. Functionally, the PF serves as an essential channel for saliva drainage, contributing to oral lubrication and digestion. Despite its discreet nature, disruptions to this system, such as entrapment between teeth or the formation of open sores, can lead to discomfort and potential infections, underscoring the importance of proper oral hygiene and timely intervention (1-8).

Management of conditions related to the PF, such as salivary stone formation, requires a comprehensive approach involving diagnostic imaging modalities like ultrasound or computerized tomography scans. Initial interventions may involve conservative measures such as moist heat application and anti-inflammatory medications. However, surgical intervention, including techniques like salivary sialendoscopy, may be necessary if conservative methods prove ineffective (8).

Understanding the anatomy and function of the plica

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fimbriata is paramount for comprehensive oral care. Despite its often-overlooked status, this anatomical landmark plays a crucial role in oral health and warrants attention in cases of discomfort or dysfunction. By recognizing its significance, healthcare providers can ensure optimal care and improved patient outcomes in managing conditions associated with the plica fimbriata. In this case report, a patient with bilateral PF is presented.

Case Report

A 24-year-old female patient presented at the dental clinic for a routine examination. She had no reported systemic diseases and did not experience any oral discomfort. The patient maintained excellent oral hygiene, with no signs of gingival or periodontal disease, and there were no significant lifestyle factors contributing to her oral health. The only dental issue was a chipped filling that required restoration. During the examination, bilateral plica fimbriata (PF) were observed, showing distinct morphological differences between the two sides. The PF on the right side displayed a tentacle-like appearance, while the left PF appeared as a small pedunculated structure (Figure 1). Interestingly, the patient was unaware of these morphological variations and did not report any associated symptoms.

Clinical evaluation further revealed dental caries on the lower right first molar and a periapical radiograph indicated an apical lesion at the mesial root of this tooth, along with caries on the lower right second molar. There were no signs indicating irritation or contact between the PFs and the teeth.

A comprehensive treatment plan was devised to address the dental issues identified. Restorative procedures were carried out to treat the dental caries on the lower right first molar and to address the apical lesion revealed by the radiograph. Additionally,

the broken filling mentioned previously was not present; instead, attention was directed towards managing the caries on the lower right second molar. The patient received instructions on maintaining proper oral hygiene to ensure ongoing oral health. Patient consent was obtained for both the photographs and the publication of this case report.



Figure 1: Bilateral plica fimbriata of the patient. A pedunculated round lesion (red arrow) and a tentacle-like lesion (blue arrow) are observed on the ventral surface of the tongue, exhibiting distinct morphologies.

Follow-up appointments were scheduled to monitor the patient's dental health and ensure successful treatment outcomes. The asymptomatic PFs on both sides were observed and deemed clinically insignificant, requiring no immediate intervention.

Discussion

PF is a relatively understudied yet significant anatomical structure situated beneath the tongue. While considered a normal feature without function, recent insights suggest its association with the salivary gland system, particularly the sublingual glands. Understanding the connection between PF and the salivary glands highlights its potential implications in oral health beyond structural existence (1-8).

Abdul Aziz and Yussif (2016) presented three case reports on nonneoplastic tongue swellings of lymphatic and lymphocytic origin. The study involved the examination and treatment of three different types of lesions: a reactive lymphoproliferative lesion, a cystic lymphoepithelial lesion, and a developmental lymphatic vessel malformation. Although the plica fimbriata is not the primary focus of the study, it is mentioned in the anatomical context of the tongue's ventral surface, where lymphatic and lymphocytic tissue can lead to various growths. These swellings, while not directly related to the plica fimbriata, illustrate the complex interplay of different tissues in the tongue, emphasizing the need for precise diagnosis and appropriate surgical intervention. The study underscores the importance of understanding the tongue's anatomy, including features like the plica fimbriata, for effective management of oral lesions (5).

Patini et al. (2023) conducted a comprehensive retrospective study on Blandin-Nuhn mucoceles (BNMs), evaluating 240 cases from two institutions. Their findings highlighted that BNMs, predominantly located on the ventral surface of the tongue, typically result from trauma and present as painless, light pink, exophytic lesions. The study noted a higher incidence in young individuals with a slight female predilection. Pathological analysis showed mucous extravasation surrounded by connective tissue in most cases. Treatment involved surgical excision with gland enucleation, leading to low recurrence and minimal complications. Additionally,

the study explored the impact of prosthetic materials on BNMs, emphasizing the importance of careful prosthetic design and regular dental follow-ups to prevent irritation and inflammation associated with poorly fitted prostheses. This underscores the necessity for precise diagnosis and treatment to ensure positive outcomes in managing BNMs (7).

PF-related issues such as irritation or entrapment between teeth can lead to discomfort. This emphasizes the need for care in monitoring not just oral health concerns but also subtle anatomical changes like the PF. Combining basic oral hygiene practices and patient education regarding potential irritants can lessen such discomfort, as outlined in the supplementary article. Moreover, the possibility of PF irritation due to accidental bites or spicy foods further accentuates the need for patient awareness and management. Patients presenting with sore or swollen PF can benefit from a multidimensional approach, including gentle oral hygiene practices, saltwater rinses, and over-the-counter pain relievers. Additionally, consultation with a dental professional is crucial to rule out underlying issues and provide appropriate intervention if necessary (8).

Conclusion

In conclusion, this case report highlights the importance of recognizing the varied morphologies of the PF and integrating thorough observations into clinical protocols. Healthcare providers can enhance diagnostic accuracy and contribute to improved patient care, ultimately leading to better overall oral health outcomes.

Declarations

Author Contributions: Conception/Design of Study- B.A.; Data Acquisition- B.A.; Data Analysis/Interpretation- MB.A.; Drafting Manuscript- B.A.; Critical Revision of Manuscript- B.A.; Final Approval and Accountability- B.A.; Material and Technical Support- B.A.; Supervision- B.A.

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