

Tracking the Tongue Terrain: A Scoping Review on Transient Lingual Papillitis.

Mugundan R N, Thavarajah R, Ranganathan K.

ABSTRACT

Background: Transient Lingual Papillitis (TLP) is an inflammatory hyperplasia of the fungiform papillae with an acute onset and often painful in nature. Despite its benign and brief course, the abrupt appearance of these painful bumps can trigger anxiety and even cancer-related fears. The obscure origins and risk factors of TLP exacerbate such anxieties, underscoring the crucial role of clinicians in providing accurate insights into the condition.

Aim and Objective: This scoping review aims to comprehensively analyze existing literature on TLP, focusing on its definition, etiology, clinical presentation, diagnosis, and management.

Materials and Methods: A comprehensive search was conducted using databases like PubMed, Scopus, and Google Scholar, covering 1996 to 2023. Eligible studies included original research, case reports, and reviews in English or adequately translated. Data was systematically extracted and summarized, following PRISMA-ScR guidelines.

Results: Of 191 articles, 26 were included after screening and removal of duplicates. The majority were case reports (16 individual cases and two case series). The mean age of TLP-affected individuals was about 32 years, with a female predominance (53%). Etiological triggers were often unspecified (22 studies), with local irritation, allergies, and infections being reported triggers. Symptoms varied; 17 studies reported no symptoms, while pain and tingling occurred in some cases. Erythematous appearance of enlarged papillae was most common (38.9%).

Conclusion: The elusive nature of TLP diagnosis calls for standardized criteria to improve recognition and understanding. Enhanced clarity could lead to better management strategies and alleviate patient anxiety. Further research is essential for overcoming existing challenges associated with TLP.

Keywords: Transient lingual papillitis, Tongue Diseases, Fungiform Papillae, Inflammatory Hyperplasia, Scoping Review, Anxiety, Quality of Life

INTRODUCTION

Transient lingual papillitis (TLP), also known as "lie bumps," refers to a spectrum of common conditions affecting fungiform papillae of the tongue which are responsible for taste sensation. It has also been known by other names such as "lingual fungiform papillae hypertrophy" and "fungiform papillary glossitis", "lie bumps or liar's bumps" and "photocopier's papillitis". "Eruptive lingual papillitis"¹.

Whitaker et al first described the lesion as an inflammatory hyperplasia of one to several fungiform lingual papillae that has an acute onset, is painful and transient in nature². The etiology of TLP is still not clearly elucidated, but some of the triggers include local irritation, viral infections, allergic reactions, hormonal changes, and stress. Although TLP is a benign and self-limiting condition, it can cause discomfort, altered taste perception, and difficulty eating and speaking [1]. TLP is a transient condition that typically resolves on its own within a few days individuals may not feel the need to seek medical attention or report it to healthcare professionals.

Department of Oral and Maxillofacial Pathology, Ragas Dental College and Hospital, 2/102, East Coast Road, Uthandi, Chennai – 600119. Affiliated to The Tamil Nadu Dr MGR Medical University, Guindy, Chennai - 600032

Corresponding Author: R N Mugundan, Assistant Professor, Department of Oral and Maxillofacial Pathology, Ragas Dental College and Hospital, 2/102, East Coast Road, Uthandi, Chennai – 600119. drmukundannrn@gmail.com

How to cite the article: Mugundan RN, Thavarajah R, Ranganathan K. Tracking the Tongue Terrain: A Scoping Review on Transient Lingual Papillitis. Oral Maxillofac Pathol J 2024; 15(2);240-250.

Source of Support: Nil

Conflict of Interest: None

As a result, the true prevalence and impact of TLP may be an underreported phenomenon.

The sudden appearance of painful bumps on the tongue can cause anxiety and lead to cancer phobia^{3,4}. The lack of clear understanding about the causes and risk factors of

TLP may exacerbate anxiety, making it essential for clinicians to provide accurate information about the condition. Patients may also become overly concerned and seek repeated medical attention, leading to increased healthcare costs and potential harm from unnecessary interventions. There is a lack of consensus regarding its optimal definition and which hyperplastic papules may be considered to be qualified to be diagnosed as TLP.

The aim of this study was to analyse the pooled data in the existing literature on TLP, with a focus on its definition, etiology, clinical presentation, diagnosis and management. By identifying the current state of knowledge and research gaps, we provide a comprehensive overview of TLP to inform clinical practice, research, and patient education.

MATERIALS AND METHODS

A comprehensive search strategy was carried out to identify relevant studies pertaining to the topic. We ran the search through electronic databases, including PubMed, Scopus, Google Scholar, Embase from 1996 (the year TLP was first reported by Whitaker et al) to 2023. The search strategy included terms used by the databases (i.e., MeSH) along with free terms, constructed to maximize sensitivity. Such terms included “Transient Lingual Papillitis” “lingual fungiform papillae hypertrophy” and “fungiform papillary glossitis”, “lie bumps” “liar’s bumps” “photocopier’s papillitis” “Eruptive lingual papillitis”, “eruptive familial lingual papillitis” and “eruptive lingual papillitis with household transmission”. The search was also supplemented by a manual search of the reference lists of relevant articles for additional relevant studies. This scoping review has been registered in Open Sciences Framework network (<https://osf.io/v9zp6/>). Studies that met the following criteria were included: Original research articles, systematic reviews, or meta-analyses on TLP, case reports and case series on TLP, Studies published with full PDF/ abstracts, studies published in English and foreign language which was adequately translated using Google Translate and studies reporting on the epidemiology, etiology, clinical presentation, diagnosis, management, and prevention of TLP. Articles that were inaccessible with incomplete or unavailable data and book chapters, reports on medical magazine, case of the month were not included in the review.

Two independent reviewers with a combined clinical expertise in the field of over 10 years screened the titles and abstracts of the identified studies for eligibility. Full-text articles were retrieved for studies that meet the inclusion criteria or when there is insufficient information to determine eligibility. The study was designed based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) protocol; flowchart given in Figure 1.

A standardized data extraction form was developed, and data was extracted systematically included studies. Pooled data analytics of all case reports pertaining to TLP was extracted; variables including study design, population characteristics, TLP definition, study outcomes, and interventions used. Any discrepancies will be resolved by consensus, and a third reviewer will be consulted if needed.

The extracted data was analysed and synthesized using a descriptive summary, including tables and figures in Microsoft Excel spreadsheet, to provide an overview of the current state of knowledge on TLP. The findings were organized by the research question's components: epidemiology, etiology, clinical presentation, diagnosis, management, and prevention. The results will be reported following the PRISMA-ScR guidelines.

Quality appraisal of the included studies was not performed as scoping reviews aim to map and synthesize the existing literature rather than assess the quality of individual studies. However, the strength of evidence and limitations of the included studies will be discussed in the review's discussion section.

RESULTS

Database search through automation tools and hand searching yielded a total of 191 articles published. A final set of 26 articles were retained for data extraction and summary measures following removal of deduplication (115), title, abstract, and full text screening. The PRISMA flow diagram illustrating the selection process of articles is shown in Figure 1.

A maximum of the articles pertaining to the topic was published beyond 2010 with 5 articles published in the year 2020 alone. The five articles were from the United States where then lesion was first reported by Whitaker et al, 4 papers were published in Brazil, followed by three studies from India, 2 studies from the Netherlands and 1 study from Australia, China, Turkey, Indonesia, France and Saudi Arabia each.

Of the 26 studies analyzed, only six were classified as original research (n=6), while four were review articles. The majority of the published literature on TLP consisted of case reports, comprising 16 individual cases and two case series.

The mean age of individuals affected by TLP in the reviewed studies was approximately 32 years. The gender distribution among the reported cases was skewed towards female patients, with 19 (53%) cases, compared to 17 (47%) cases being male. The etiological trigger for TLP was not mentioned in 22 of the studies reviewed, while four studies reported local irritation due to factors such as dental calculus, sharp tooth structure, anxiety and mechanical trauma. In some cases, TLP was associated with food allergies, including cucumber, fish, and tomato sauce, while one case was attributed to ‘atomic fireball’, liquor cocktail. Allergic conditions such as atopy, fissured tongue, and geographic tongue were also linked to TLP. Notably, TLP was reported as part of the presentation of COVID tongue, one case each was associated with dengue fever and Kawasaki disease.

Out of the 26 studies reviewed, only 10 cases reported symptoms of pain and tingling sensation along with enlarged papillae, while 8 cases were not associated with any symptoms. Interestingly, 17 studies did not mention or document any symptoms with TLP, regardless of the study type. Three cases were linked to a burning sensation on the tongue when consuming spicy food, along with dysgeusia, xerostomia, and soreness. TLP cases associated with COVID-19 and Kawasaki disease were asymptomatic.

Regarding the manifestation of enlarged papillae, an erythematous appearance was evident in 14 (38.9%) cases. In a



TABLE 1: Summary of Clinical Characteristics, Etiologies, and Treatments in Transient Lingual Papillitis

AUTHOR & YEAR	ARTICLE TITLE	AGE	GEN- DER	ETIOLOGY	CLINICAL FEATURE	ASSOCIAT- ED SYMP- TOM	HISTOPA- THOLOGY	TREATMENT	REF- E R- ENCE
Schipper K et al 2023	A sore tip of the tongue	41	Male	Local Irritation	Erythematous, prominent fungiform papillae on dorsal surface of the tongue	No associated symptoms	No biopsy done	Resolves on its own	15
Bavalatti N et al 2022	A case report on the management of lingual papillitis through ayurveda	35	Male	Idiopathic	1-2 mm painful nodules on the dorsal surface of tongue, pink in colour, round and solitary in nature	Painful in nature	No biopsy done	Triphala guggulu, Kamadudha rasa, Sutashekharara, Ajamodadi churna, and Haridra khandra were prescribed	5
Halwani MA 2021	Non-painful severe variant form of eruptive lingual papillitis: case report and ROL	6	Female	Not available	Multiple erythematous to pustular blisters of 2-3mm prominent at the tip and anterior dorsal part of the tongue.	no associated symptoms	No biopsy done	Resolves on its own with maintenance of good oral hygiene	16
Mandasari M et al 2020	Health-Related Anxiety in the Management of Oral Soreness in an HIV seropositive patient	35	Male	Local irritation due to dental calculus.	Two circumscribed papules on the right lateral side of tongue	Soreness of the bumps	No biopsy done	Removal of the calculus and 0.2% chlorhexidine mouthwash twice a day	14
Gobara N et al 2020	Transient lingual papillitis – case report	8	Male	Cucumber slice	2 to 3 mm erythematous papules on dorsum of tongue	moderate to severe pain and no pus	No biopsy done	Resolved on its own	7
van der Waal I 2020	Twee bijzondere tongafwijkingen	42	Female	Idiopathic	Enlarges papules on the dorsal surface of tongue	Soreness	No biopsy done	Resolves on its own	13
Chamse-din B et al 2019	Pigmented fungiform papillae of the tongue: a clinical and histologic description	28	Male	Not Available	Multiple dark-brown macules and dome shaped papules corresponding to fungiform papillae	no associated symptoms	No biopsy done	No further treatment was pursued	17



Kalogirou EM et al 2017	Transient lingual papillitis: A retrospective study of 11 cases and review of the literature	10	Female	Idiopathic	Localized pattern; 3 enlarged fungiform papillae, either side of the tip of tongue	pain, difficulty feeding	No done	biopsy	Dexamethasone oral solution (3 times/day), avoidance of lingual irritation	1
		38	Female	Idiopathic	Localized pattern; 4-5 enlarged fungiform papillae on the anterior tongue dorsum	pain, difficulty feeding	No done	biopsy	Dexamethasone oral solution (3 times/day), avoidance of lingual irritation	
		17	Female	Idiopathic	Localized pattern; 2 enlarged whitish fungiform papillae on tongue dorsum	none	No done	biopsy	Avoidance of lingual irritation	
		28	Female	Idiopathic	Generalized pattern; multiple normal colored enlarged fungiform papillae	pain, tingling sensation	No done	biopsy	Avoidance of lingual irritation, spicy and acidic food	
		26	Male	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform	pain	No done	biopsy	Avoidance of lingual irritation, spicy and acidic food	
		47	Female	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform papillae on the anterior tongue dorsum	erythema, xerostomia	No done	biopsy	Avoidance of lingual irritation, oral moisturizing product (4 times/day)	
		41	Female	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform papillae on the tongue dorsum	Burning mouth, xerostomia, dysgeusia	No done	biopsy	Avoidance of lingual irritation, oral moisturizing product (4 times/day)	
		53	Male	Idiopathic	Localized pattern; several enlarged fungiform papillae on the left and right anterior tongue dorsum	Dysgeusia	No done	biopsy	Avoidance of lingual irritation	
		36	Female	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform	No associated symptom	No done	biopsy	Avoidance of lingual irritation	
		31	Female	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform papillae of tip of tongue	Burning mouth, tingling sensation, dysgeusia	No done	biopsy	Avoidance of irritation, anti-inflammatory analgesic agent (3 times/day), oral moisturizing products	
		22	Female	Idiopathic	Generalized pattern; multiple erythematous enlarged fungiform papillae of tip of tongue	Mild pain	No done	biopsy	Avoidance of lingual irritation, chamomile rinses (3-4 times/day)	

Fernandes CIR et al 2020	Uncommon oral manifestations of dengue viral infection	21	Female	Dengue	Papillae on the tongue dorsum	No associated symptoms	No biopsy done	Resolved on its own	18
Raji K et al 2016	Goodness, gracious, great balls of fire: A case of transient lingual papillitis following consumption of atomic fireball	27	Female	Atomic Fireballs two days prior	Multiple 1 – 2mm pink and white papules on the anterior two-thirds dorsal and lateral aspects of the tongue	Mild irritation followed by pain	No biopsy done	Triamcinolone acetamide 0.1% dental paste twice daily	9
Patil P et al 2013	Transient lingual papillitis an unusual clinical presentation	16	Female	Idiopathic	Enlarged, inflamed, erythematous fungiform papillae.	Burning sensation on eating spicy food	No biopsy done	Topical lignocaine	12
Krakowski AC et al 2014	Transient Lingual Papillitis Associated with Confirmed Herpes Simplex Virus 1 in a Patient with Kawasaki Disease	17	Male	Kawasaki disease	The dorsal tongue was covered from mid-tongue to tip with aggregated, nearconfluent, pinkish-white vesiculopustules and papules	No associated symptoms	No biopsy done	Resolved on treatment on the primary disease	19
Nigri AP et al 2014	Transient lingual papillitis related to food allergy	30	Male	Food allergy	Local, erythematous hypertrophied lingual papillae on lateral part of tongue	Burning sensation	No biopsy done	Resolved on its own	11



Bouquot JE et al 2012	Chronic lingual papulosis: new, independent entity or "mature" form of transient lingual papillitis?	31	Male	Idiopathic	Diffuse involvement of dorsum, bilaterally; papules of uniform size.	No associated symptom	No biopsy done	Not mentioned	8
		62	Male	Fissured tongue	Diffuse involvement of dorsum, bilaterally; considerable variation in size of papules; some papules look pale.	No associated symptom	Dense fibrous tissue and mild hyperkeratosis.	Not mentioned	
		54	Female	Geographic tongue	Tip of tongue: uniform papules surrounded by geographic tongue	No associated symptom	No biopsy done	Not mentioned	
		53	Male	Geographic tongue and fissured tongue	Edematous papules that are uniform in size extending in the lateral borders and dorsum of tongue	No associated symptom	No biopsy done	Not mentioned	
		38	Female	Mouth breather; anterior open bite	Asymptomatic, moderately firm, slightly pedunculated uniform papules.	No associated symptom	avascular fibrous tissue with a few subepithelial lymphocytes; small surface projection of granulation tissue.	Not mentioned	
		53	Female	Tongue rubbing against sharp premolars fissured tongue; candidiasis	Erythematous translucent papules on the lateral border and left dorsum of tongue: some	Painful in nature	No biopsy done	Not mentioned	
		46	Female	Idiopathic	Tip of tongue: moderate involvement with extension onto dorsum; papules are somewhat irregular in size.	No associated symptom	No biopsy done	Not mentioned	
		47	Male	Tongue-thrust habit; mouth breather	Diffuse involvement of dorsum: uniform sized papules of normal color.	No associated symptom	dense fibrous tissue with a small number of dilated subepithelial capillaries.	Not mentioned	
		59	Female	Mouth breathing; anterior open bite	Diffuse involvement of dorsum, bilaterally; associated with fissured tongue; papules of uniform size.	No associated symptom	No biopsy done	Not mentioned	



Brannon RB & Flaitz CM 2003	Transient lingual papillitis: A papulokeratotic variant	11	Male	Idiopathic	Multiple white papules distributed over the dorsal and lateral surfaces of the tongue with no associated symptoms	No associated symptoms	Hyperplastic stratified squamous epithelium with thick parakeratin. An inflammatory cell infiltrate composed chiefly of lymphocytes populated the connective tissue immediately adjacent to the epithelium along with exocytosis. Lymphocytes tended to obscure the basal layer of epithelial cells.	Resolved after 5 days	21
Flaitz CM & Chavarría C 2001	Painful tongue lesions associated with a food allergy	7	Male	Fish and tomato sauce	Linear, erythematous and edematous aggregate of white papules on the right lateral border of the tongue. With scalloping on the affected lateral border.	Mild pain	No biopsy done	Elimination of fish from diet and diphenhydramine and aluminum hydroxide/magnesium hydroxide suspension	
Whitaker SB et al 1996	Transient lingual papillitis	32	Male	Idiopathic	1 x 1 mm erythematous to yellow papule of the anterior dorsal tongue slightly to the right of midline	no associated symptoms	Stratified squamous epithelium with hyperkeratosis, surface corrugation, intracellular edema and exocytosis. The connective tissue had loose and dense collagen, mild mixed inflammatory cell infiltrate and nerve bundles.	Resolved on its own	2



N u ñ o González A et al 2021	Are Oral Mucosal Changes a Sign of COVID-19?	In covid19 patients, oral mucosal signs are an early event and one among the mucosal sign is transient U-shaped lingual papillitis.	22
Akin toy e SO & Mup- parapu M 2020	Clinical Evaluation and anatomic variation of the oral cavity	Have included foliate papillitis under transient lingual papillitis	29
Quispe JR & Palma JCA 2021	Manifestaciones orales debido al Covid-19	TLP is a part of COVID tongue	23
Paradows- ka-Stolarz AM 2021	Oral manifestations of COVID-19: Brief review	Transient lingual papillitis, glossitis and patch depapillation and lateral indentations 24	21
H u a n g BO & Li N 2009	Fungiform papillae hyperplasia (fph) identification by tongue texture analysis	Identification of TLP using Image analysis	25
Marks R et al 2005	Fungiform papillary glossitis: atopic disease in the mouth?	TLP is commonly seen in oral cavity of atopic patients	26
Roux O & Lacour JP 2004	Eruptive lingual papillitis with household transmission: a prospective clinical study	Have stated that TLP is possibly contagious and if present in an adult could be easily transmitted to a child who it would have occurred in childhood	27
Ahu Yor- ulmaz 2018	Frequency of tongue lesions among outpatients attending a tertiary dermatology clinic in Turkey	Tongue lesions are very common in patients with dermatological diseases and TLP is a common manifestation	28
Das A et al 2022	Transient dermatoses: Leaving a lasting memory	Acute onset, transient and painful hyperplasia of fungiform lingual papillae. The risk factors for the development of this condition are acute or chronic mechanical trauma, stress, lack of sleep, poor nutrition, geographic tongue, excessive smoking and alcohol intake. Treatment is essentially symptomatic and involves the administration of local anesthetics, topical corticosteroids, coating agents and saline mouthwashes	6

smaller proportion, 5 (13.9%) cases exhibited a normal pink hue. Pale discoloration of the enlarged papillae was observed in 8 (22.2%). Brown pigmented appearance of the papillae was seen in 2 (5.6%) cases. Notably, specific information regarding the appearance of the papillae was not provided in 7 cases (19.4%). The distribution of TLP across different sites on the tongue was analysed, including the dorsal surface, lateral border, and tip. Among the cases examined, 25 (58.1%) cases were identified on the dorsal surface of the tongue. 11 (25.6%) cases were situated along the lateral border of the tongue while, 6 (13.9%) cases were documented at the tip of the tongue.

Only six studies report biopsy of the enlarged papillae, with three done to rule out the possibility of malignancy, including one case in an HIV-positive patient. Histopathological findings revealed dense and loose fibrous connective tissue containing numerous small vascular channels with engorged red blood cells, a mild mixed inflammatory cell infiltrate that became more intense towards the area of ulceration, and a few small nerve bundles towards the base of the specimen. Stratified squamous epithelium with hyperkeratosis and surface corrugation, occasional prominent keratohyaline granules, and intracellular edema were noted, along with scant areas of exocytosis.

DISCUSSION

Out of a total of 36 cases of TLP retrieved in case report and case series, 17 were male and 19 were female, showing a

higher female predilection. Out of the total cases reported, 11 cases (37.9%) reported with pain, making it the most common symptom associated with TLP [5–10]. Burning sensation was reported in 4 cases (13.8%) [8,11,12], while only 2 cases (6.9%) reported soreness^{13,14}. Interestingly, 17 cases (58.6%) were reported to be asymptomatic^{2,8,15–21}.

Among the cases analyzed, idiopathic occurrences accounted for 19 cases (36.5%)^{1,2,5,8,12,13,16,20,21}. Allergic reactions were identified in 4 cases (7.7%)^{7,10,11}. Local irritation emerged as a contributing factor in 3 cases (5.8%)^{6,12,13}. Similarly, mouth breathing and infectious diseases each represented 3 cases (5.8%)^{14,18}. Additionally, information regarding the underlying cause was unavailable in 2 cases (3.8%)^{14,15}. A single case (1.9%)¹⁷ was associated with a systemic disease, while fissured tongue, geographic tongue, and the combination of fissured and geographic tongue each accounted for 1 case (1.9%)⁶.

Fourteen cases have been reported to have an erythematous appearance, while one case reported a hyperplastic fungiform papilla with brown to grey pigmented borders in a cobblestone pattern¹⁷. In this review, it was found that although the conventional understanding of papillitis implies inflammation of the papillae accompanied by erythematous appearance, a subset of cases challenged this conventional expectation. In 7 cases, there were instances where the diagnosis of TLP was established despite the presence of papillae that exhibited a white coloration. This phenomenon stands in contrast to the typical manifestation of inflammation, highlighting the complexity of TLP diagnosis and suggesting the potential existence of diverse presentations that deviate from the conventional understanding of inflammatory indicators. Acute onset of painful erythematous tender papules. Fever, difficulty in eating, burning sensation, salivation, and cervical adenopathy are usually associated have been termed as Eruptive Lingual Papillitis (ELP)¹⁶. This should be differentiated from TLP. There is no clear-cut consensus on the differentiation between TLP and ELP except for the familial transmission and spread on the lesion. Not all cases of papillitis demonstrated the cardinal signs of inflammation. The current review found that 51% of the reported cases in the literature did not show these signs as they were asymptomatic. This suggests that the actual prevalence of TLP may be underestimated.

None of the authors reported dietary deficiencies. Blood tests are generally ordered when there is a suspicion of an

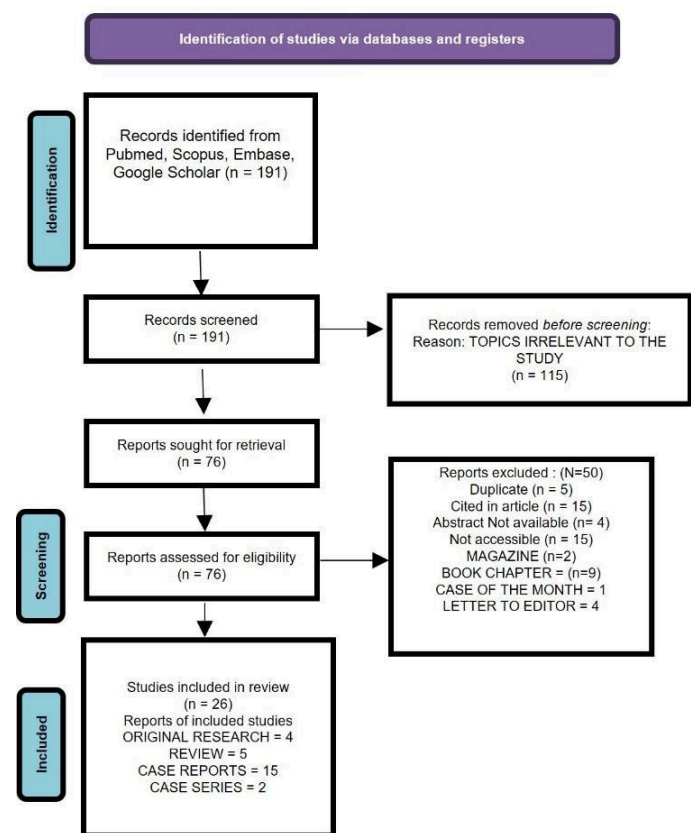


Fig.1: Prisma-ScR flowchart for search strategy used in literature search

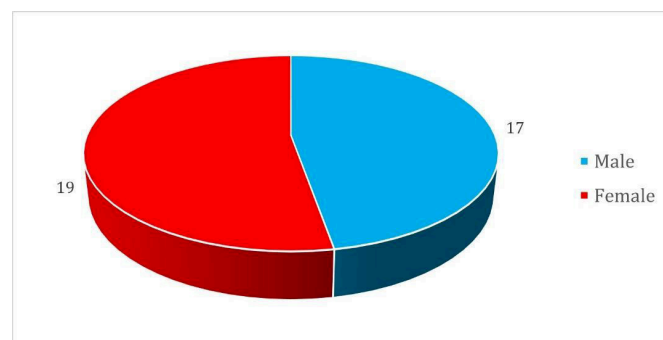


Fig.2: Gender distribution for cases reported in literature on TLP

underlying systemic condition or to evaluate overall health status. Oral cavity conditions, such as TLP are usually self-limiting and do not require extensive diagnostic investigations. Clinicians rely on clinical examination and patient history to assess and manage these conditions, reserving blood tests for cases where there are additional indications of systemic involvement or the presence of other concerning symptoms.

The review articles included in this scoping review focused on the relationship between changes in the filiform papillae, particularly TLP and COVID-19. Oral Mucosal Changes in COVID-19 (2020) emphasize that oral mucosal signs, including TLP, can serve as early indicators of COVID-19, hinting at a possible connection between TLP and the viral infection. Nuño González et al extended this notion by incorporating foliate papillitis under the umbrella of TLP, thereby highlighting the need for a comprehensive understanding of oral mucosal changes in COVID-19 patients, which could be pivotal for early diagnosis and management²². Nemeth-Kohanszky M et al introduced the intriguing concept of "COVID tongue," suggesting that TLP to be an integral part of a distinctive pattern of oral manifestations associated with COVID-19²³. The same was reinforced by Paradowska-Stolarz AM who stated that not only TLP but also glossitis, patch depapillation, and lateral indentations as oral manifestations in COVID-19 patients, supporting the hypothesis that TLP may be closely linked to the disease²⁴.

Bo Huang et al described TLP as manifesting as hyperplasia of the fungiform papillae and termed it as Fungiform Papillae Hyperplasia (FPH). The authors also stated that FPH was a notable physiological change observed on the dorsal surface of the tongue and plays a crucial role in diagnosing various diseases. This condition is particularly significant in the medical field as it can serve as a sensitive indicator of internal pathological alterations, making it a valuable diagnostic tool. When certain specific diseases, such as acute appendicitis, are present, FPH becomes evident, particularly in the form of hyperplastic fungiform papillae at the tip of the tongue. The clinical significance of FPH lies in its presence or absence, making it an essential candidate for disease differentiation and diagnosis²⁵. In a review by Marks R et al observed that TLP was commonly seen in the oral cavity of atopic patients, hinting at

a potential predisposition or risk factor for TLP. This becomes pertinent when considering TLP occurrence in COVID-19 patients with pre-existing conditions.²⁶

Roux O and Lacour JP introduced the term Eruptive Lingual Papillitis (ELP) for cases of TLP that presented with the possibility that TLP may be contagious and transmissible from adults to children, raising questions about its transmission within households and potentially within the context of COVID-19 transmission²⁷. These studies collectively suggest that the oral cavity may offer valuable insights into early indicators, potential associations, and diagnostic markers of the viral infection.

Without a definitive diagnostic criterion, many cases of TLP are often overlooked and underreported. The lack of standardized diagnostic guidelines and the absence of clear distinguishing features contribute to the underreporting of cases. Furthermore, individuals experiencing TLP may not seek medical attention as the symptoms tend to resolve on their own within a few days or weeks. As a result, the true prevalence and impact of this condition may be underestimated, leading to limited research and a gap in our understanding of its causes, risk factors, and appropriate management strategies.

Given the challenges associated with identifying and documenting cases of TLP, there is a pressing need for the establishment of a definitive diagnostic threshold. Such criteria would help healthcare professionals accurately recognize and differentiate this condition from other tongue-related ailments. A standardized diagnostic framework would not only facilitate the proper identification and reporting of cases but also enhance our understanding of the underlying causes and potential risk factors. By addressing these gaps in knowledge, researchers and clinicians can work towards developing targeted treatments and effective management strategies, ultimately improving the overall care and outcomes for individuals affected by TLP.

CONCLUSION

The challenges associated with identifying and diagnosing TLP highlight the urgent need for a definitive diagnostic threshold. Establishing standardized criteria would aid healthcare professionals in accurately recognizing and distinguishing this condition from other tongue-related

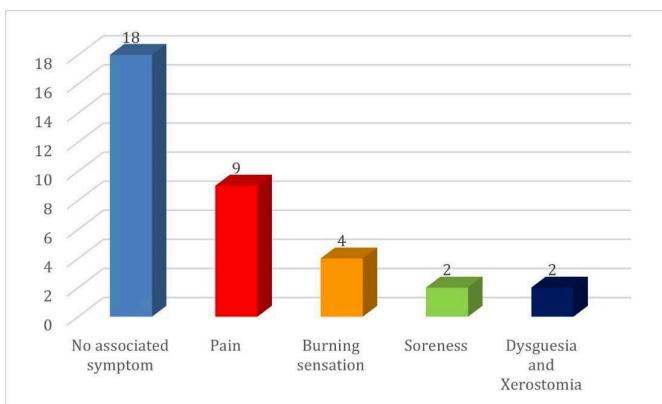


Fig.3: Symptoms Associated with Reported Cases of TLP

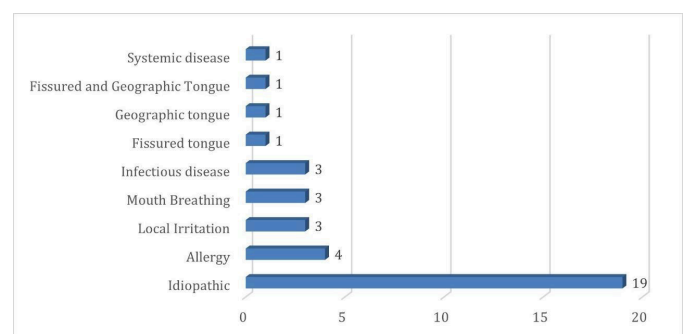


Fig.4: Etiologies associated with reported TLP literature

ailments. This would enhance our understanding of its causes and risk factors, enabling the development of targeted treatments and effective management strategies. However, the lack of clear definitions and diagnostic criteria, coupled with patient anxiety, particularly in cases of cancer phobia, continue to pose challenges. Further research and collaboration are required to overcome these obstacles and advance our knowledge of TLP.

REFERENCES

- Kalogirou EM, Tosios KI, Nikitakis NG, Kamperos G, Sklavounou A. Transient lingual papillitis: A retrospective study of 11 cases and review of the literature. *J Clin Exp Dent*. 2017;9: e157–e162.
- Whitaker SB, Krupa JJ, Singh BB. Transient lingual papillitis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 1996;82: 441–445.
- Spies JW. CANCERPHOBIA. *Arch Surg*. 1933;27: 306.
- Matsuoka H, Himachi M, Furukawa H, Kobayashi S, Shoki H, Motoya R, et al. Cognitive profile of patients with burning mouth syndrome in the Japanese population. *Odontology*. 2010;98: 160–164.
- Bavalatti N, Rajagopala M, Dabas A. A case report on the management of lingual papillitis through Ayurveda. *Journal of Ayurveda Case Reports*. 2022;5: 108.
- Das A, Sil A, Khullar G. Transient dermatoses: Leaving a lasting memory. *Indian J Dermatol Venereol Leprol*. 2022;88: 265–267.
- Gobara N, Costa K, Dos Santos CVE, Gushiken W, Lemos CA. TRANSIENT LINGUAL PAPILLITIS—CASE REPORT. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2020;129: e118.
- Bouquot JE, Adibi SS, Sanchez M. Chronic lingual papulosis: new, independent entity or “mature” form of transient lingual papillitis? *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2012;113: 111–117.
- Raji K, Ranario J, Ogunmakin K. Goodness, gracious, great balls of fire: A case of transient lingual papillitis following consumption of an Atomic Fireball. *Dermatol Online J*. 2016;22. Available: <https://www.ncbi.nlm.nih.gov/pubmed/27617517>
- Flaitz CM, Chavarria C. Painful tongue lesions associated with a food allergy. *Pediatr Dent*. 2001;23: 506–507.
- Nigri AP, Silva AA, Almeida N, Antero SA, Ramos MEB, de Menezes Maciel R, et al. Transient Lingual Papillitis Related to Food Allergy. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2014;117: e193.
- Patil P, Naikmasur VG, Nandimath K. Transient Lingual Papillitis: An Unusual Clinical Presentation. *Indian Journal of Stomatolog*. 2013;4(1): 64–65.
- van der Waal I. Twee bijzondere tongafwijkingen. *Tandartspraktijk*. 2020;41: 14–15.
- Mandasari M, Syarif ZO, Rahmayanti F. Health-Related Anxiety in the Management of Oral Soreness in an HIV Seropositive Patient. *Journal of Dentistry Indonesia*. 2020;27: 42–45.
- Schipper K, van der Meij EH, de Visscher JGAM. [A sore tip of the tongue]. *Ned Tijdschr Tandheelkd*. 2023;130: 115–117.
- Halwani MA. Non-painful severe variant form of eruptive lingual papillitis: A case report and literature review. *Dermatol Reports*. 2021;13: 9020.
- Chamseddin B, Vandergriff T. Pigmented fungiform papillae of the tongue: a clinical and histologic description. *Dermatol Online J*. 2019;25. Available: <https://www.ncbi.nlm.nih.gov/pubmed/31738846>
- Fernandes CIR, Perez LE da C, Perez DE da C. Uncommon oral manifestations of dengue viral infection. *Braz J Otorhinolaryngol*. 2020;86 Suppl 1: 3–5.
- Krakowski AC, Kim SS, Burns JC. Transient lingual papillitis associated with confirmed herpes simplex virus 1 in a patient with kawasaki disease. *Pediatr Dermatol*. 2014;31: e124–5.
- Giunta JL. Transient lingual papillitis: case reports. *J Mass Dent Soc*. 2009;58: 26–27.
- Brannon RB, Flaitz CM. Transient lingual papillitis: a papulokeratotic variant. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2003;96: 187–191.
- Nuño González A, Magaletskey K, Martín Carrillo P, Lozano Masdemont B, Mayor Iburguren A, Feito Rodríguez M, et al. Are Oral Mucosal Changes a Sign of COVID-19? A Cross-Sectional Study at a Field Hospital. *Actas Dermo-Sifiliográficas (English Edition)*. 2021;112: 640–644.
- Quispe JR, Palma JCA. Manifestaciones orales debido al Covid-19. *Odontologia*. 2021;6: 37–50.
- Paradowska-Stolarz AM. Oral manifestations of COVID-19: Brief review. *Dent Med Probl*. 2021;58: 123–126.
- Huang BO, Li N. Fungiform Papillae Hyperplasia (FPH) Identification By Tongue Texture Analysis. *Int J Image Graph*. 2009;09: 479–494.
- Marks R, Scarff CE, Yap LM, Verlinden V, Jolley D, Campbell J. Fungiform papillary glossitis: atopic disease in the mouth? *Br J Dermatol*. 2005;153: 740–745.
- Roux O, Lacour JP, Paediatricians of the Region var-Côte d’azur. Eruptive lingual papillitis with household transmission: a prospective clinical study. *Br J Dermatol*. 2004;150: 299–303.
- Ahu Yorulmaz, Başak Yalçın, Frequency of tongue lesions among outpatients attending a tertiary dermatology clinic in Turkey, *Mucosa*, 2018; 1(1):18-23
- Akintoye SO, Mupparapu M. Clinical Evaluation and Anatomic Variation of the Oral Cavity. *Dermatol Clin*. 2020 Oct;38(4):399–411.

