

The Gustative Sore-Transient Lingual Papillitis

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Preface

Transient lingual papillitis is a frequently discerned, painful, inflammatory condition arising within lingual fungiform papillae. Transient lingual papillitis as a terminology was introduced by Whitaker, *et al.* in 1996 [1]. The condition describes an inflammatory hyperplasia of singular or multiple fungiform lingual papillae and may exhibit a non-painful papulokeratotic variant.

Transient lingual papillitis may be concordant to or identical with eruptive (familial) lingual papillitis and fungiform papillary glossitis. Identical lesions may be denominated as “lingual fungiform papillae hypertrophy”, “fungiform papillary glossitis”, “lie bumps”, “liar’s bumps” or “photocopier’s papillitis”.

Additionally, “eruptive lingual papillitis”, “eruptive familial lingual papillitis” and “eruptive lingual papillitis with household transmission” may denominate a spectrum of transient lingual papillitis.

Disease characteristics

Fungiform papillae are disseminated upon superficial and lateral lingual surface and appear concentrated towards tip of the tongue. The papillae are flat, pink and inconspicuous [2-4].

Fungiform papillae configure a particular variant of lingual bumps which are usually situated upon surface of the tongue. The vascular fungiform papillae incorporate temperature receptors and taste buds, especially bitter taste buds [2-4].

Quantity and magnitude of fungiform papillae is variable wherein the papillae are abundant in females, in contrast to males. Fungiform papillae appear quantifiably enhanced following menopause [2-4].

Nerve injury may decimate several fungiform papillae which may incur a declining taste sensation [2-4].

Fungiform papillae appear enlarged and conspicuous in several conditions. Generally, the “strawberry tongue” of scarlet fever and oral manifestations of the contemporary severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection emerging as coronavirus disease (COVID-19) are associated with aberrant fungiform papillae [2-4].

Of obscure and multifactorial aetiology, transient lingual papillitis is posited to arise due to acute or chronic mechanical trauma, compulsive lingual mobility due to localized factors inducing tongue irritation such as sharp edged teeth, dental restoration, orthodontic appliances or several calculi upon anterior teeth [2-4].

Transient lingual papillitis is hypothesized to arise due to stress, insomnia, inadequate nutrition, geographic tongue, thermal injury, excessive consumption of tobacco, alcohol, spicy or acidic foods, allergic reactions to specific food stuffs, products of oral hygiene, photocopier's toner, gastrointestinal disorders and hormonal alterations associated with menstruation or menopause [2-4].

The condition is frequently associated with atopy and may represent as a localized atopic reaction to heat or food stuffs engendering mucosal irritation [2-4].

Transient lingual papillitis may emerge as an idiopathic condition or as an adult relapse of childhood eruptive familial lingual papillitis or eruptive lingual papillitis with household transmission [2-4].

Pertinent triggers may emerge as chronic lingual irritation due to orthodontic appliances, habitual lingual trauma, stress or coexistent geographic tongue [2-4].

Although undocumented, it is theorized that bacterial, viral, fungal or parasitic infection may induce transient lingual papillitis, eruptive familial lingual papillitis or eruptive lingual papillitis with household transmission [4,5].

Classic variant of transient lingual papillitis is discerned in exceeding > 50% individuals. Commonly, young female subjects are incriminated although no age of disease emergence is exempt. Nevertheless, majority of instances are exemplified within the first to fourth decade. A female preponderance is observed [4,5].

Transient lingual papillitis is engendered due to localized irritation or trauma to fungiform papillae. Nevertheless, factors such as stress, hormonal fluctuation, gastrointestinal dysfunction and specific foods may trigger the condition [4,5].

The concordant eruptive (familial) lingual papillitis incriminates young children cohabiting with peers or family members. The condition is commonly discerned in spring although seasonal variation may be absent [4,5].

Viral infection may contribute to disease emergence, especially in cohabiting individuals. It is posited that childhood viral infection can engender reoccurring episodes of eruptive lingual papillitis which may manifest as classical transient lingual papillitis in adults [5,6].

Transient lingual papillitis is documented in individuals infected with COVID-19. Besides, transient lingual papillitis may be associated with geographic tongue or conditions which exhibit scalloping upon lateral margin of the tongue [5,6].

Fungiform papillary glossitis is identical to transient lingual papillitis and may be observed in individuals with eczema, asthma or hay-fever. The condition, contemplated to be synonymous with transient lingual papillitis, may arise due to enhanced environmental antigen sensitivity of the tongue, cutaneous surfaces, pulmonary parenchyma or nasal passages with consequent emergence of eczema, asthma or hay-fever [5,6].

Appropriate discernment and classification of transient lingual papillitis contingent to colour, magnitude and location of fungiform papillae may be inadequate as contributory factors such as pertinent clinical symptoms, lesion resolution and diversity of normal fungiform papillae remain unassessed [5,6].

Clinical elucidation

Of acute onset, the disorder is painful and transient. Classic appearance of transient lingual papillitis is of a singular, painful, elevated, erythematous or whitish lump situated upon tip of the tongue. The papillae are inflamed for one to two days and inflammation reappears within weeks, months or years. A burning or tingling sensation may ensue [6,7].

Infrequently, innumerable lesions are discerned which may disappear within hours or persist for several days. Asymptomatic instances are uncommon. Accompanying lymphadenopathy or systemic illness may be absent [6,7].

Papulokeratotic variant manifests as repetitive, persistent, asymptomatic condition demonstrating multiple, whitish lumps upon the lingual surface. The commonly discerned transient lingual papillitis exhibits diverse variants contingent to clinical features such as:

- Localized variant which manifests as a singular or numerous swollen fungiform papillae representing a solitary lingual zone, especially the tip, lateral margin and dorsum of tongue. A female predilection is observed and no age of disease emergence is exempt [6,7].
- Generalized variant wherein innumerable fungiform papillae are inflamed. Usually, children are implicated and median age of disease emergence is 3.5 years. The disease may progressively implicate family members. The condition is indicative of eruptive familial lingual papillitis or eruptive lingual papillitis with household transmission [6,7].

Localized and generalized variants are associated with an acute onset. The enlarged lingual papillae may be normal, erythematous, whitish, yellow or exceptionally emerge as brown or black on account of staining due to food substances or tobacco consumption [6,7].

Aforesaid clinical patterns depict symptoms such as pain, burning, tingling, pruritus, difficulty in food consumption or sensitivity to hot food. Familial transmission is accompanied by hyper-salivation and pyrexia with lymphadenopathy in occasional instances. Clinical symptoms may typically resolve within a brief duration [6,7].

Concomitant diffuse lingual inflammation demonstrates persistence of clinical symptoms for up to three weeks [6,7].

Eruptive lingual papillitis may emerge as a systemic illness of abrupt onset associated with pyrexia and lymphadenopathy. Incriminated children salivate excessively and appear unwilling to feed. Enlarged, inflamed, pustular, fungiform papillae are discerned upon the tip and lateral margin of tongue although superficial surface is uninvolved. The condition may be associated with angular cheilitis [6,7].

Eruptive lingual papillitis is associated with systemic symptoms for roughly a week although the disease may linger for up to two weeks. Reappearing lesions with identical clinical symptoms may arise within two months [6,7].

Implicated adults depict a clinical countenance identical to children along with an abrupt, intense burning of the tongue which worsens upon food consumption. Pertinent clinical symptoms within family members, parents and siblings may be delayed by a week or so [6,7].

Transient U-shaped lingual papillitis frequently demonstrates tongue swelling as a component of altered oral mucosa. The condition may arise due to mucosal infection with SARS-CoV-2 and may be exemplified in COVID-19 or emerge with secondary contributory factors as inadequate oral hygiene or adoption of oxygen therapy [6,7].

Histological elucidation

Transient lingual papillitis demonstrates variable and non specific histological features [7,8].

Upon microscopy, oral mucosa may enunciate oedema and inflammation of fungiform papilla along with minimal spongiosis. The superimposed stratified squamous epithelium appears infiltrated with neutrophils. Taste buds confined to fungiform papillae are absent [7,8].

Papulokeratotic variant of transient lingual papillitis characteristically exhibits chronic, painless, white or yellow white, enlarged fungiform papillae disseminated upon the surface of tongue, morphologically concordant to parakeratosis [7,8].

Upon special stains, evidence of viral, fungal or bacterial infection is absent. The papulokeratotic variant exhibits severe hyper-parakeratosis and minimal inflammation with infiltration of chronic inflammatory cells as lymphocytes and macrophages [7,8].

Differential diagnosis

Localized variant of regressive transient lingual papillitis requires a segregation from reactive oral lesions such as fibrous hyperplasia, giant cell fibroma or pyogenic granuloma [7,8].

Generalized variant of transient lingual papillitis with enlarged fungiform papillae is characteristically discerned in scarlet fever engendered by group A β haemolytic streptococci. Dorsum of tongue initially exhibits a coated, white tongue with disseminated hyperaemic, enlarged, fungiform papillae contributing to the typical “strawberry tongue” [7,8].

Besides, “strawberry tongue” may be discerned in streptococcal pharyngitis, infection of oral cavity and Kawasaki’s disease or mucocutaneous lymph node syndrome [7,8].

Additionally, enlarged fungiform papillae are delineated in psoriasiform fungiform hypertrophy, renal transplant recipients on cyclosporine A, individuals with iron deficiency anaemia, erythematous candidiasis, chronic lingual papulosis and subjects on chemotherapy [7,8].

Furthermore, transient lingual papillitis requires a segregation from asymptomatic, non resolving diseases configuring multiple nodules upon dorsum of tongue such as epidermal nevus syndrome, Bowen’s papillomatosis, acanthosis nigricans, exophytic median rhomboid glossitis, neurofibromatosis, tuberous sclerosis, amyloidosis, lipoid proteinosis, lepromatous leprosy and Cowden’s syndrome [7,8].

Investigative assay

Transient lingual papillitis and eruptive lingual papillitis may be appropriately discerned upon characteristic clinical representation [8,9].

Conditions such as recurrent aphthous ulceration, herpetic stomatitis, suppurative tonsillitis, geographic tongue, habitual lingual trauma, tongue thrusting upon orthodontic devices engendering diffuse erythema, oral allergic reactions to antiseptic mouthwash, recent oropharyngeal infection, diverse systemic diseases, tobacco consumption and intake of specific medications require exclusion [8,9].

Systemic disease such as familial hypercholesterolemia, thyroid disorders, hypertension, deficiency of trace elements or haematological conditions as β -thalassemia major or minor may concur with the condition [8,9].

Therapeutic options

Classic variant of transient lingual papillitis does not require therapeutic intervention and the condition resolves spontaneously within a brief period. Cogent therapy may be unnecessary in asymptomatic lesions [8,9].

Symptomatic individuals are advised to circumvent tongue friction and consumption of food items which irritate the oral mucosa. Persistent pain with troublesome feeding may be treated with corticosteroid oral rinse [8,9].

Coexistent xerostomia can be treated with oral moisturizers. Enlarged fungiform papillae resolve within ~ 2 weeks and recurrence is exceptional [8,9].

Nevertheless, treatment strategies which alleviate the condition are topical steroids, salt water, antiseptic or anaesthetic mouth rinse and imbibing cold, soothing fluids or substances as yoghurt [8,9].

However, majority of lesions may persist despite adoption of aforesaid therapeutic strategies and lesion recurrence may ensue [8,9].

Agents such as paracetamol, ibuprofen or topical antiseptics may not alter the duration or severity of clinical symptoms in children with eruptive lingual papillitis [8,9].

Management of symptomatic instances is aimed at relief of associated clinical symptoms. Pain can be relieved by local anaesthetics, topical corticosteroids, coating agents, saline mouthwash and topical suspension of combined antihistamine agents with aluminium hydroxide or magnesium hydroxide. Consumption of cold foods is recommended. Circumvention of irritating chewing gums, candies or oral hygiene agents is advised [8,9].

The condition may relapse, especially the papulokeratotic variant. Thus, assessment of possible trigger factors as trauma or allergens is necessitated [8,9].

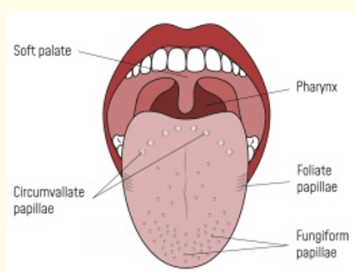


Figure 1: Transient lingual papillitis displaying the normal distribution of papillae of the tongue [10].

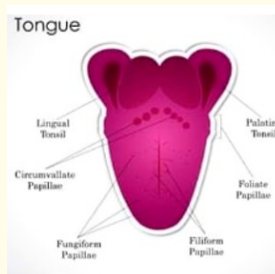


Figure 2: Transient lingual papillitis exemplifying diverse loci of fungiform and filiform papillae [11].

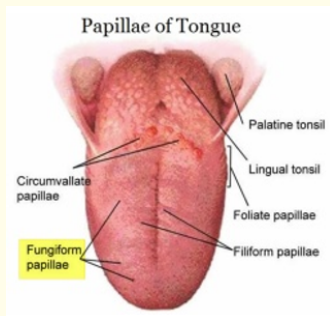


Figure 3: Transient lingual papillitis enunciating the various locations of papillae of the tongue [12].



Figure 4: Transient lingual papillitis exhibiting innumerable whitish nodules and plaques superimposed upon an erythematous tongue [13].

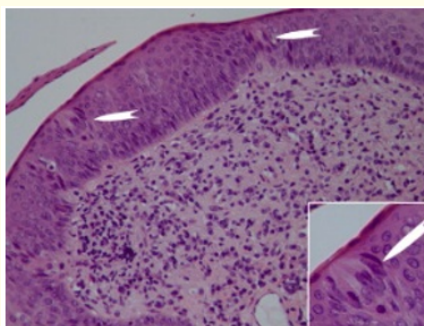


Figure 5: Transient lingual papillitis depicting a hyperkeratotic stratified squamous epithelium superimposed upon inflamed papillae infiltrated by chronic inflammatory cells [13].

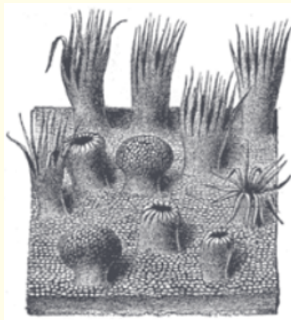


Figure 6: Transient lingual papillitis displaying inflamed fungiform papillae with a superimposed spongiotic stratified squamous epithelium [14].

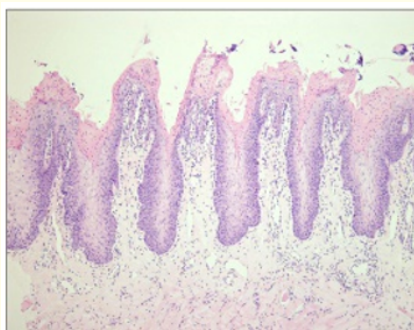


Figure 7: Transient lingual papillitis demonstrating acanthotic, hyperkeratotic stratified squamous epithelium with adjacent swollen fungiform papilla infiltrated by chronic inflammatory cells [15].



Figure 8: Transient lingual papillitis exhibiting aggregates of swollen fungiform papillae confined to superficial epidermal surface of the tongue [16].

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