

The Sore Excrescences-inflammatory Papillary Hyperplasia

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Preface

Inflammatory papillary hyperplasia is a benign, predominantly inflammatory lesion incriminating the oral mucosa. Inflammatory papillary hyperplasia is engendered secondary to chronic trauma and lesions are commonly discerned within the hard palate. Inflammatory papillary hyperplasia usually arises due to employment of dentures and is categorized as type III denture stomatitis. The essentially benign inflammatory papillary hyperplasia may be misinterpreted as a potentially malignant disorder [1].

Disease characteristics

Generally, inflammatory papillary hyperplasia arises in heavy smokers who are elderly adults beyond > 70 years and inhabit within a rural setting. Also, aggressive granular stomatitis may occur with consumption of around 25 cigarettes per day [2,3].

The condition is prevalent within females as women exhibit a longevity of life, a proportion of women employ dentures for a significant duration and postmenopausal modifications engenders an oral mucosa susceptible to hyperplastic alterations [2,3].

Inflammatory papillary hyperplasia is associated with demountable dentures of the upper jaw although dentulous individuals devoid of dental prosthesis may be implicated [2,3].

Of obscure pathogenesis, possible aetiological factors contributing to disease emergence are poorly fitting dentures, perpetual employment of dentures, poor oral hygiene, mouth breathing, sensitivity to denture lining, consumption of tobacco, ageing and certain systemic conditions. A pertinent risk factor for

inflammatory papillary hyperplasia is perpetual employment of or application of ill-fitting dentures for a duration exceeding > 10 years [2,3].

Infection with *Candida* spp is posited to contribute to emergence of inflammatory papillary hyperplasia wherein colonization of fungal organisms such as *Candida* spp may occur due to unsatisfactory oral hygiene [2,3].

Prevalence of inflammatory papillary hyperplasia is contemplated to be around 4.4% in individuals with dentures, especially smokers with ill-fitting dentures. Dentures within the upper jaw may be associated with inflammatory papillary hyperplasia in around 14% subjects whereas incidence of denture stomatitis appears at up to ~ 30%. Besides, prevalence of singular inflammatory papillary hyperplasia is at around 13.9% [3,4].

Denture stomatitis is intensely concurrent with improper hygiene within dental prostheses and may be influenced by factors such as continuous denture application, diabetes mellitus, smoking or integrity and adaptation of dental prosthesis. Denture abutting oro-palatal or gingival soft tissues over an extended period may exacerbate the inflammatory process [3,4].

Possibly, vacuum suction within maxillary dentures may engender inflammatory papillary hyperplasia. Also, frequency of denture lavage is a pertinent factor which impacts occurrence of inflammatory papillary hyperplasia [3,4].

Thus, inflammatory papillary hyperplasia can be classified as a variant of denture stomatitis, especially in concordance with demountable dental prosthesis [3,4].

Clinical elucidation

Inflammatory papillary hyperplasia represents with minimal to innumerable, miniature, reddish, concentric, papilloma-like or “mulberry-like” lesions which are usually situated upon the hard palate. Also, configuration, appearance and quantification of lesions is contingent to degree of inflammation [5,6].

Characteristically, a singular or multiple nodular, asymptomatic lesions of magnitude around ~2millimetres is observed predominantly within the hard palate. Besides, inflammatory papillary hyperplasia may manifest as minimal or multiple, inflammatory oral lesions necessitating further evaluation [5,6].

Alternatively, singular or multiple oral papules may be disseminated upon the hard palate. Exceptionally, lesions may be discerned within the mandible [5,6].

Generally, several reddish, papillary or verrucoid lesions are discerned which exhibit a mucosal hue varying from pink to red [5,6].

Histological Elucidation

Upon microscopic examination, numerous papillary outgrowths with superimposed stratified squamous epithelium demonstrating acanthosis, parakeratosis or pseudoepitheliomatous hyperplasia are observed. Inflammatory papillary hyperplasia exemplifies epithelial hyperplasia along with papillary projections and a variable sub-epithelial accumulation of chronic inflammatory cells accompanied by soft tissue fibrosis [6,7].

Frequently, miniature keratinous cysts or mucoid pools are configured. The circumscribing oedematous stroma is infiltrated by lymphocytic and plasma cell rich infiltrate. Focal calcification and cartilaginous or osseous metaplasia may ensue. Subjacent serous and mucinous glands may be atrophic or fibrotic [6,7].

Papillary projections layered with stratified squamous epithelium accompanied with or demonstrating an absence of subjacent chronic inflammation are pathognomonic of inflammatory papillary hyperplasia [6,7].

Differential diagnosis

Inflammatory papillary hyperplasia requires a segregation from conditions such as secondary pseudomembranous candidiasis,

Figure 1: Inflammatory papillary hyperplasia demonstrating reddish papillary excrescences distributed upon the palate [11].

Figure 2: Inflammatory papillary hyperplasia enunciating reddish verrucoid lesions confined to the palate [12].

Figure 3: Inflammatory papillary hyperplasia depicting stratified squamous epithelium with acanthosis and hyperkeratosis admixed with a patchy, chronic inflammatory infiltrate [12].

Figure 4: Inflammatory papillary hyperplasia exemplifying several papillary projections of mucosal glands lined with tall columnar epithelium and an admixture of chronic inflammatory cells [13].

Figure 5: Inflammatory papillary hyperplasia exhibiting papillary projections lined with stratified squamous epithelium with moderate acanthosis, hyperkeratosis and a subjacent chronic inflammatory exudate [14].

Figure 6: Inflammatory papillary hyperplasia displaying papillary lesions lined with hyperplastic, tall columnar mucus secreting epithelium with subjacent chronic inflammatory exudate [15].

Figure 7: Inflammatory papillary hyperplasia demonstrating papillary lesions lined by stratified squamous epithelium with acanthosis, hyperkeratosis and parakeratosis and an underlying chronic inflammatory exudate [16].

human papilloma virus (HPV) associated papillary lesions or erythema migrans [7,8].

Besides, distinction is required from malignant neoplasms as mucoepidermoid carcinoma which exhibits keratinous cysts, miniature mucoid lakes and focal pseudo-epitheliomatous hyperplasia of superimposed stratified squamous epithelium [7,8].

Therapeutic options

Treatment strategies are diverse and appear contingent to disease severity and clinical representation. Occasionally, lesions of inflammatory papillary hyperplasia may not necessitate therapeutic intervention [9,10].

Alternatively, surgical extermination of inflamed papillary tissue is mandated. Also, fabrication of a fresh, demountable dental prosthesis is optimal, recommended and beneficial [9,10].

Aggressive clinical disease and enlarged papillary lesions can preferably be treated with laser therapy, electrosurgical technique or cryotherapy. Miniature, localized lesions can be optimally treated with mouth rinses. As a disorder, inflammatory papillary hyperplasia is accompanied by a favourable prognosis. Discontinued employment of ill-fitting dentures and appropriate healing of inflamed tissue is an optimal manoeuvre in resolution of the condition [9,10].

Adequate time for healing of inflamed oral tissues is recommended. Cogent therapy is subject-centric and lesion-centric. Meticulous oral hygiene is necessitated and recommended for spontaneous resolution of the condition [9,10].

Appropriate awareness of the disease ensures declining disease reoccurrence. Regular removal and cleansing of dentures and circumscribing oral tissues circumvents possible relapse of inflammatory papillary hyperplasia [9,10].

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11. Image 1 Courtesy: Science direct.

12. Image 2 and 3 Courtesy: Pathology outlines.
13. Image 4 Courtesy: Basic Medical Key.
14. Image 5 Courtesy: Research Gate.
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16. Image 7 Courtesy: Pocket Dentistry.

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