

Case Report

## **Chronic Infections of Oral Cavity Masquerading Malignancy: A Series of Four Cases**

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### **ABSTRACT**

Chronic bacterial and fungal infections of the upper orodigestive and laryngeal tract presenting as nodular and ulceroproliferative lesions, are often misdiagnosed clinically as malignancy. The diagnosis further becomes difficult when these infections are encountered at rare sites. Primary Histoplasmosis of epiglottis and tuberculosis of oral cavity are rare. Differentials including tuberculosis, fungal infections like histoplasmosis, candidiasis, papillomatous lesions, amyloidosis, lymphoma, syphilis, malignancy and other granulomatous lesions like Wegener's disease, sarcoidosis present with much similar complaint and must be considered before rendering the clinical diagnosis of a noduloulcerative lesion in a oral cavity irrespective of age, endemicity and immune status of the patient.

**Keywords:** *epiglottis, histoplasmosis, tuberculosis, oral cavity*

### **INTRODUCTION**

Chronic infections of the upper orodigestive and laryngeal tract presenting as nodular and ulceroproliferative lesions, are often misdiagnosed clinically as malignancy. The article constitutes rare entities including isolated epiglottic histoplasmosis and three cases of tuberculosis involving lateral border of tongue, epiglottis and vocal cord respectively, which presented as noduloulcerative lesion greatly mimicking malignancy leading to delay in appropriate diagnosis.

### **MATERIALS AND METHODS**

**CASE: 1 Isolated Epiglottic Histoplasmosis in Immunocompetent Male in a Non Endemic Region**

A 45 years old male presented with painful swallowing for two months and progressive weight loss. Patient had a negative history of any cough, haemoptysis and was a chronic smoker and alcoholic. Laryngoscopy revealed a mass lesion of approximately 0.7x0.5 cms in the epiglottic region. Excision biopsy of the lesion showed stratified squamous epithelium lined soft tissue infiltrated by inflammatory cells and numerous intracellular inclusions with perinuclear halo. (Fig.1A) These inclusions stained with periodic acid Schiff and gomori methanamine stain (Fig.1B&1C) and conformed to the morphology of unicellular yeast form of histoplasma capsulatum. Patient was anaemic (Hb: 10gm%) and had mild eosinophilia. Chest X- ray was normal and HIV test was non reactive. No

significant travel history was present. Based on all the information the diagnosis of Primary epiglottic histoplasmosis was rendered. Patient is being treated with antifungal drugs and has shown significant improvement.

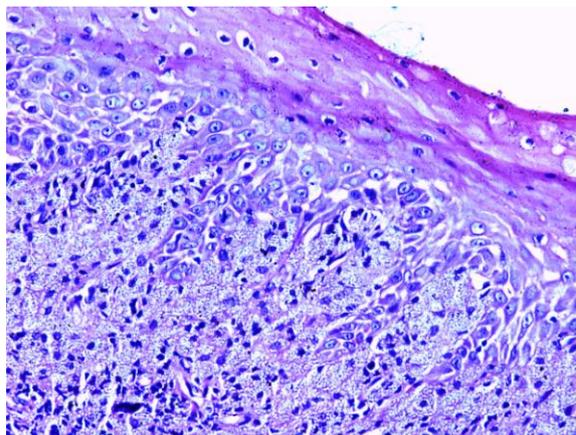


Figure. 1A- H&E: Stratified squamous epithelium covered epiglottic tissue revealing histoplasma spores

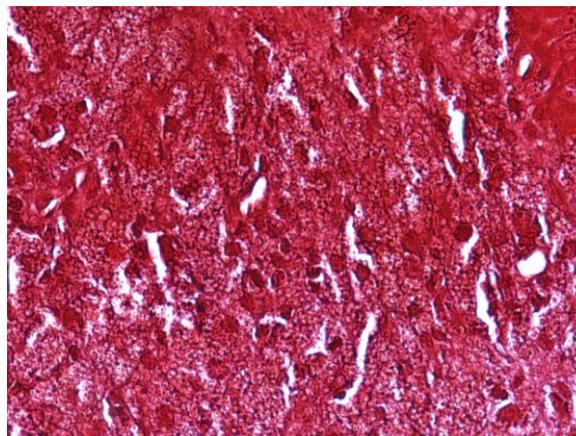
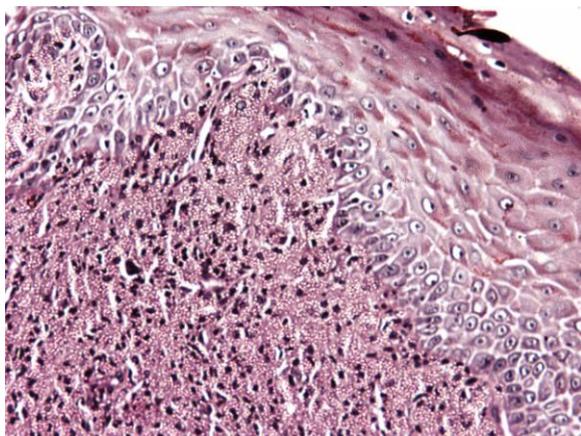


Figure. 1B&1C- PAS& GMS: highlighting histoplasma spores

### CASE: 2: Tuberculosis Tongue

A 56-year-old-male patient, presented with a chief complaint of persisting non-healing ulcer over right lateral border of tongue along with pain in mouth since 15 days. Patient was known case of tuberculosis 10 yrs back but there was no documentation. Patient was chronic smoker since >40 years and chronic alcoholic for >30 years. There was no lymphadenopathy. Examination of the oral cavity revealed an irregular ulceroproliferative growth measuring 2x1 cm over right lateral border of tongue in the middle 1/3<sup>rd</sup> with surrounding in duration. (FIG.2A) Routine blood investigations were within normal limits except ESR which was found to be raised (101 mm in first hour). Serological tests for HBV, HCV, HIV and syphilis were negative. Having high clinical suspicion of malignancy, biopsy from ulcer was performed and sent to department of pathology for histopathological

examination. Biopsy revealed multiple caseating epitheloid cell granulomas. (FIG.2B) This raised the possibility of granulomatous infection, including tuberculous or fungal. Subsequent stains for fungi (PAS and Grocott silver) and bacteria (gram stain) were negative. However AFB staining with 20% H<sub>2</sub>SO<sub>4</sub> revealed tuberculous bacilli when examined under oil immersion. Thus, on the basis of histopathological findings and AFB positivity, diagnosis of tuberculous infection was made. The patient was started on antitubercular therapy and follow up showed good response.



Figure. 2A. revealing ulceroproliferative growth on tongue

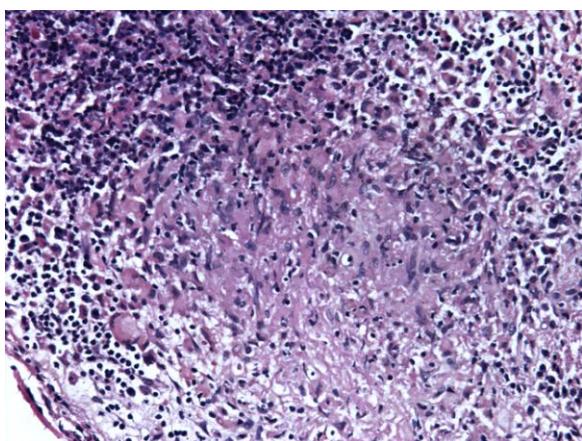


Figure 2B. H&E: Biopsy tongue revealing granulomatous

### CASE 3, 4: Primary Tuberculosis of Epiglottis and Vocal Cord

A 32 years old male presented with odynophagia and sore throat. A proliferative epiglottic growth of around 0.5x0.5 cms was noticed. Another 44 years old male presented with hoarseness of voice and was found to have a noduloulcerative lesion on vocal cord. Excision biopsy of the lesions was received in the department of pathology. Clinically, malignancy was suspected in both the cases. The general physical, systemic examination and chest-X ray findings were normal.

Histology revealed large areas of caseous necrosis, multinucleated langhans giant cells along with formation of epithelioid cell granulomas. Ziehl Nelson staining for acid fast bacilli was positive. Diagnosis of tuberculous inflammation was rendered. Both the patients are being treated

with antitubercular drugs and have shown significant clinical improvement.

### DISCUSSION

Chronic bacterial and fungal infections of the aerodigestive tract with a nodular and/or ulceroproliferative presentation especially in the older age group highly mimic malignancy and is usually the first diagnosis that come to a clinicians mind. It is evident by the fact that all such cases reported in this paper and previously documented in literature had been misdiagnosed as malignancy clinically. Further, this matter is complicated, when rare entities present at unusual locations. Here, we present a brief discussion of two rare entities including primary histoplasmosis and tuberculosis of the oral cavity. *Histoplasma capsulatum* infection involving the larynx primarily is a rare manifestation, especially in immunocompetent individuals and a high index of suspicion is needed to establish the diagnosis correctly. [1] *Histoplasma capsulatum* related to *Blastomyces dermatitidis* is a dimorphic fungus, is endemic to river basins of the United States and Canada, including the Mississippi, Missouri, Ohio, and St. Lawrence River valleys. [2] It is primarily an inhalation-acquired mycosis with rare cases of cutaneous inoculation being described. [1] Histoplasmosis is rarely encountered in nonendemic regions and presents a diagnostic challenge. Primary laryngeal histoplasmosis presents as odynophagia and or hoarse of voice. In a series of 59 patients presenting with acute, sub acute, and chronic progressive disseminated histoplasmosis, Goodwin et al described 58 otolaryngologic lesions with only a single one involving the epiglottis. [3] Tongue and buccal mucosa have been described as the most common site of involvement in the same series. Isolated epiglottic involvement is rare. It has two distinct growth forms-yeast and mycelia forms. Yeast forms occur in humans and soil. Depending on the host immune response, the histopathologic

presentation of histoplasmosis is variable and may range from a dense histiocytic response to well formed granulomata with or without necrosis. In profoundly immunocompromised hosts, there may be a subtle inflammatory response to *H capsulatum* and tissue necrosis may predominate. [4] Other fungal infections like *Candida glabrata* involving epiglottis have also been described in the literature.

Tuberculosis of the upper aerodigestive tract is a rare clinical entity and recent incidence of laryngeal tuberculosis is less than 1% of all tuberculosis cases. [5] Among extra-pulmonary tuberculosis, oral tuberculosis is rare and accounts for 0.2% to 1.5% of all cases of tuberculosis. Tubercular involvement of the tongue and larynx may be primary due to direct seeding of the mucosa by tubercle bacilli or may be secondary usually coexistent with the pulmonary disease. Classically, laryngeal involvement is mainly in the posterior half of the larynx. [6] However, according to Clery and Batsakis, localization in the anterior half of the larynx now occurs twice as often as in the posterior half, and vocal cords are the most commonly affected site (50-70%), followed by false cords (40-50%), and epiglottis, aryepiglottic folds, arytenoids, posterior commissure and/or subglottis (10-15%). [7] According to Shin et al., the findings of laryngeal tuberculosis may be categorized into four groups: (a) whitish ulcerative lesions (40.9%), (b) nonspecific inflammatory lesions (27.3%), (c) polypoid lesions (22.7%), and (d) ulcerofungative mass lesions (9.1%). [8] Oral tuberculous lesions may occur on tongue, gingival, floor of mouth, palate and buccal mucosa. [9] The most common site among oral lesions is lateral border of tongue. [10]

Clinically, various lesions including tuberculosis, fungal infections like histoplasmosis, candidiasis, papillomatous lesions, amyloidosis, lymphoma, syphilis, malignancy and other granulomatous lesions like Wegner's disease, sarcoidosis present with much similar complaints. This list of

differentials must be considered before rendering the clinical diagnosis of a noduloulcerative lesion in a oral cavity irrespective of age, endemicity and immune status of the patient. Histopathological examination is mandatory and must be considered without any delay for confirmation of diagnosis.

## CONCLUSION

Presentation of chronic fungal infections in immunocompetent individual in even non endemic areas is on rise and constitutes a domain to be brought into focus. Further, cases of tuberculosis primarily involving rare sites are being increasingly reported. It is utmost important that the clinicians should keep in mind these entities before rendering the diagnosis so that appropriate treatment can be initiated on time.

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