



Primary Laryngeal Histoplasmosis

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Abstract

Histoplasmosis presenting primarily as laryngeal infection is relatively uncommon and can be mistaken for papillomatosis or even carcinoma of the larynx. We report a case of localized form of histoplasmosis which is extremely rare. It was apparently a primary infection of the larynx with no other systemic involvement. A 20 year old male presented with history of difficulty and pain during swallowing. Indirect laryngoscopy revealed a growth in cricoid region. Histopathological examination of the biopsy material revealed histoplasmosis which was confirmed by using special stains for fungi (Gomori's methanamine and PAS).

Key Words

Laryngeal Histoplasmosis, Histoplasma Capsulatum

Introduction

Granulomatous diseases caused by infectious agents are being seen more frequently encountered than before. Infection by histoplasma capsulatum is one such granulomatous disease (1). The infection is acquired by inhalation of dust particles from soil contaminated with bird or bat droppings that contain small spores (microconidia), the infectious form of fungus (2,3). Histoplasma is known to occur naturally in caves inhabited by bats. The outbreaks of histoplasmosis have been reported in cave explorers (4). Majority of primary infections in immunocompetent hosts are asymptomatic or may present with a flu like illness (5). Hematogenous (disseminated) histoplasmosis occurs in immunocompromised individuals (5,6,7). Patients with AIDS are susceptible to disseminated infection with histoplasma, which is a major opportunistic pathogen in this disease (2). Laryngeal involvement is usually associated with dissemination (1, 5, 8).

The primary histoplasmosis of larynx is an extremely rare condition (3,7,8) and is of particular interest to otolaryngologist because clinically it may mimic carcinoma (1,3,9). We report a rare case of primary laryngeal histoplasmosis in a 20 year old male.

Case Report

A 20 year old male, non-smoker presented to the Otolaryngologist with a 20 days history of difficulty and

pain during swallowing. The general physical examination was normal. The examination of ear, nose and throat was normal except for indirect laryngoscopy, which revealed a friable growth in the cricoid region. Routine laboratory examinations were un-remarkable. Biopsy was taken and subjected to histopathological examination. No evidence of disseminated disease could be found. There were no signs of systemic or pulmonary involvement.

Pathological Findings: Gross examination showed multiple soft tissue pieces together measuring 4cms in diameter, tan brown in colour. These were consumed in three blocks. Microscopic examination revealed predominantly necrotic tissue containing acute and chronic inflammatory cells along with numerous yeast forms of fungus which were smaller than the size of the RBC. Occasional hyphae were also seen (*Fig. 1*). Special stains (Periodic Acid Schiff and Gomori's methanamine silver) revealed numerous small oval bodies morphologically consistent with histoplasmosis (*Fig. 2 & 3*).

Discussion

Histoplasmosis is a common granulomatous disease of worldwide distribution caused by a dimorphic fungus *Histoplasma capsulatum* (1). Darling first discovered the organism in 1905 and thought causative agent was protozoan, later it proved to be fungus (10). He first named and described the organism in 1906 from postmortem

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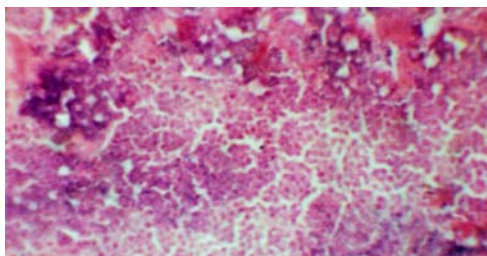


Fig. 1 Photomicrograph Showing Predominantly Necrotic Tissue Containing Acute & Chronic Inflammatory Cells Along With Numerous Yeast Forms of Fungus, Smaller than the Size of the RBC. Occasional Hyphae Seen (H&E 40x10x)

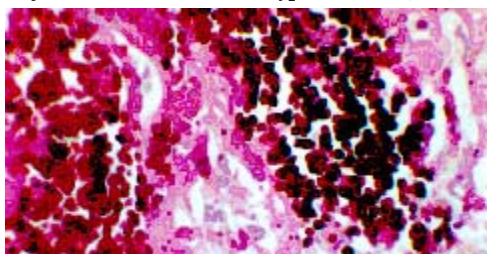


Fig.2 Photomicrograph Depicting Numerous PAS Positive Yeast Forms of Histoplasma Capsulatum. (Periodic Acid Schiff 40x10x).

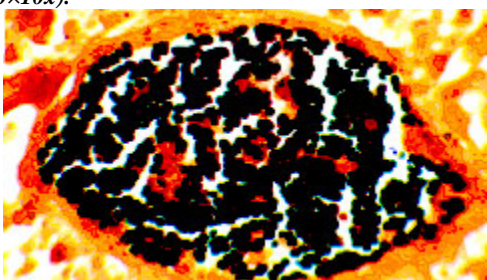


Fig.3 Photomicrograph Depicting Numerous Small Oval Bodies Morphologically Consistent with Histoplasmosis. (Gomori's methanamine silver 100x10x).

studies of liver, spleen, lungs, lymph nodes and adrenal glands. The first case of histoplasmosis was reported in 1906 in United States (7). In 1950's although the fungal nature of the disease was well established but it was considered as a deficiency disease and treated with vitamins and mineral supplements as no specific treatment was available in that era (10). In the present era with availability of modern antifungal agents the condition is completely curable. The pathogenesis of histoplasmosis is incompletely understood. It is known that macrophages are the major targets of histoplasma capsulatum. The fungus expresses heat shock protein 60(hsp60) on its cell surface that binds to alpha 2 integrins on the surface of macrophages. Histoplasma induces macrophages to secrete TNF which stimulates and recruits other macrophages to kill the histoplasma (2). Laryngeal histoplasmosis poses a diagnostic difficulty because

clinically it can be mistaken for papillomatosis or even malignancy (3,9,11) and microscopically it can be confused with blastomycosis (due to similar microscopic appearance), tuberculosis (due to presence of necrosis and granulomas) and squamous cell carcinoma because of atypical epithelial response (pseudo-epitheliomatous hyperplasia) seen in these cases (1). In the present case a clinical impression of tuberculosis/malignancy was made, however microscopic examination of Hematoxyline & Eosin, Periodic Acid Schiff and silver stained sections revealed features consistent with histoplasmosis. Very few cases of isolated/primary laryngeal histoplasmosis (without any pulmonary involvement) have been reported till date (3,7,8). In our case also there was no pulmonary or systemic involvement. Patient responded well to systemic fluconazole with complete remission of symptoms.

Conclusion

Isolated laryngeal/epiglottic histoplasmosis is a rare entity. Because of its clinical simulation with malignancy it needs to be included in the differential diagnosis of neoplasms and chronic ulcers of upper aerodigestive tract.

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