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Commentary on Clinical Staging and Histological Grading In Oral Submucous Fibrosis

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Abstract

Oral Submucous Fibrosis (OSF) has been reported almost exclusively among Indians living in India and among other Asiatics, with a reported prevalence ranging up to 0.4% in Indian rural population. The need to initiate early treatment is due to the fact that OSF carries a high risk of malignant transformation (7.6%). The signs and symptoms of the stages of OSF often overlap, to solve this issue researchers in the past have attempted to correlate the clinical and histopathologic features to ascertain the exact staging, few have reported a correlation while most have not.

Keywords: Oral submucous fibrosis; Malignant transformation

Commentary

Oral Submucous Fibrosis (OSF) is a high risk precancerous condition characterized by changes in the connective tissue fibers of the lamina propria and deeper parts leading to stiffness of the mucosa and restricted mouth opening. As the disease progresses, the collagen is tightly packed and the thickness of the collagen fibers increases considerably to the very early stage. So, the very early stage could be considered as the appropriate stage for secondary prevention of the disease.

The treatment of patients with OSF depends on the degree of clinical involvement. If the disease is detected at a very early stage, cessation of the habit is sufficient. Most patients with oral submucous fibrosis present with moderate-to-severe disease. Medical treatment is symptomatic and predominantly aimed at improving mouth movements. Treatment strategies include the following: Steroids, placental extracts, hyaluronidase, pentoxifylline, IFN-gamma and Lycopene [1].

Several classifications, staging and grading systems based on clinical and histopathological features and other aspects of OSF have been put forth by various researchers (Table 1). Many have tried to correlate the clinical stages with the histopathologic findings. The histopathological feature of OSF being largely non-specific, greater emphasis has to be laid on clinical information as far as the diagnosis of the condition is concerned [2]. However, histopathological features are as important as that of clinical information in predicting the prognosis of the disease condition [3].

Very early stage (Grade I)	Early stage (Grade II)	Moderately advanced stage (Grade III)	Advanced stage (Grade IV)
A finely fibrillar collagen, dispersed with marked edema. The fibroblastic response is strong. The blood vessels are sometimes normal, but more often they are dilated and congested. Inflammatory cells, polymorpho-nuclear leukocytes with an occasional eosinophil are present.	The juxta-epithelial area shows early hyalinization Plump young fibroblasts are present in moderate numbers The blood vessels are dilated and congested The inflammatory cells are mostly mononuclear lymphocytes, eosinophils and an occasional plasma cell	The collagen is moderately hyalinized The fibroblastic response is less marked, the cells present being mostly adult fibrocytes Blood vessels are normal or constricted The inflammatory exudates consist of lymphocytes and plasma cells, although an occasional eosinophil is seen	The collagen is completely hyalinized The hyalinized areas are devoid of fibroblasts Blood vessels are completely obliterated or narrowed The inflammatory cells are lymphocytes and plasma cells

Table 1: Pindborg and Sirsat described four consecutive stages, Histopathological classification of OSF.

In a recent study carried out by us in 2014 [4] we found no correlation between clinical staging and histopathological grading after statistical analysis (p=0.635). This was in accordance with the study conducted by Hazarey et al. [5].

In conclusion, there is minimal or no correlation between clinical staging and histopathological grading of OSF. This may be due to difference in severity and extent of fibrosis in different parts of the oral mucosa. As the diagnosis of OSF cannot be made based on histopathology alone but rather on a combination of histopathology, chewing habit and clinical information is necessary to confirm the diagnosis and staging to necessitate timely management.

India offers a diverse avenue for research especially in the subject of OSF as a number of areca nut and tobacco products are available in the market and a large segment of the population is addicted to these products.

Future Scope

Correlation of molecular biomarkers with clinical stages of OSF should be carried out. Molecular studies could reveal the genes which are specific for each stage of OSF. This would be an interesting prospect as genomics is the way forward.

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