

Oral submucous fibrosis in a young patient

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S U M M A R Y

A seventeen-year-old male presented with a restriction in the oral cavity. The oral mucosa was white and he could not protrude his tongue. For 4 years he had habitually held a powdery material containing betel nut in the oral vestibule for several minutes a day. A biopsy of the labial mucosa was carried out and a diagnosis of oral submucous fibrosis was confirmed. This is a premalignant condition. Oral submucous fibrosis is very rare in young patients.

Case report

This case report relates to a seventeen-year-old male referred to Ghaem Hospital in Mashhad, Iran, with progressive inability to open his mouth. This condition had manifested itself 2 years earlier and was progressive. On examination, the inter-incisal opening was approximately 20 mm. The oral mucosa was blanched in appearance and he could not protrude his tongue (Fig. 1). Questioning revealed that he was in habit of holding a powdery material (containing betel nut, catechu, tobacco, lime, spices, and flavors) in the oral vestibule for several minutes a day starting 4 years earlier, that his symptoms started 2 years later, and that they were progressive. A biopsy of the labial mucosa was carried out and a histological diagnosis of oral submucous fibrosis was made (Figs. 2, 3). The patient was otherwise normal upon physical examination. Laboratory investigations such as complete blood count and

liver and kidney function tests were within normal ranges.



Fig. 1. Blanched appearance of mucosa.

**K E Y
W O R D S**

**oral
submucous
fibrosis, betel
nut**

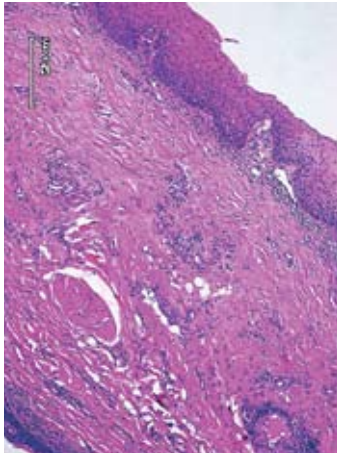


Fig. 2. Microscopic view of histological section of OSMF lesions; chronic inflammatory reaction and deep hypovascular fibrosis under squamous epithelium with focal atrophy to hyperplasia, H&E staining, $\times 100$.

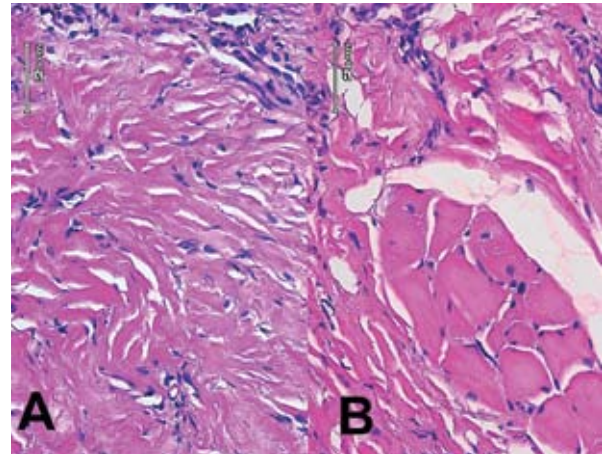


Fig. 3. Microscopic view of OSMF lesion; A: Hypovascular hyalinized collagenous fibrosis in superior to inferior dermis, B: Note entrapment of striated muscle fascicles by deep and dense fibrosis, H&E staining, $\times 400$.

Discussion

Oral submucous fibrosis (OSMF) is a chronic disease with chronic inflammation and fibrosis of submucous tissues, causing restriction of the mouth opening (1). Areca nut chewing has a significant role in its etiology (2). Cases have been reported worldwide wherever Asians migrate, but it occurs most commonly in India and southeast Asia (3, 4).

The majority of OSMF cases belong to the 20- to 40-year-old age group and there is a male-to-female ratio of 1.8 to 2:1 (5–7). Most OSMF cases occur in lower socioeconomic groups (8).

In the pathogenesis of OSMF, it is suggested that a multifactorial mechanism is at work, including areca nut chewing, the ingestion of spicy red pepper, nutritional deficiency including vitamins and trace elements, hypersensitivity to various dietary constituents, and genetic and immunological susceptibility (9–13).

Histopathology findings are the mainstay of diagnosis at present. The principal features of OSMF are less vascularized collagenous submucosa with a range of atrophy in the neighboring striated muscle fibers, mild to moderate chronic inflammation, and epithelial changes consisting of atrophy and a variable degree of dysplasia (14–17).

The important pathological feature of OSMF is submucosal accumulation of collagen leading to epithelial atrophy (18, 19). It has been discovered that exposure of buccal mucosal fibroblasts to alkaloids may cause aggregation of collagen (20).

Oral submucous fibrosis is a chronic condition of the oral mucosa and oropharynx with the potential for malignant transformation. Squamous cell carcinoma may occur in 7.6% of cases (9).

An interesting point in our patient is his relatively young age. Proper preventive measures such as public education must be taken to reduce this serious disease.

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