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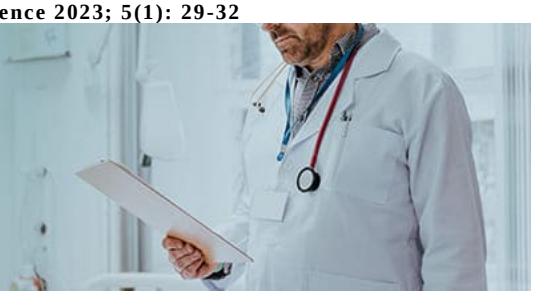

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Irritation fibroma with dysplastic features: A case report

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Abstract
Leukoplakia is a rare potentially malignant lesion, usually found on the oral mucosa with an increased risk of malignant transformation. The Irritational / traumatic fibroma is a reactive lesion that represents most common oral lesions of the soft-tissue, caused by local traumas or plaque induced inflammation, calculus, overhanging margins and restorations, which may lead to esthetic and functional problems. It can occur at any age group from almost any soft-tissue site, buccal mucosa tongue, and gingiva. The buccal mucosa is the most common region that is involved. The aim of this case report is to present the clinical and histopathological features and management of the benign lesion which was positioned in the left buccal region at the corner of the mouth. A 62 years old male had reported to the Department of Oral and Maxillofacial Surgery, Swami Devi Dyal Hospital and dental College, Panckula, Haryana, India, with the chief complaint of growth in the left check mucosa region since 4 years. Clinical and histopathological examination was done followed by surgical excision for the management of the same.

Keywords: Chhani, consumption, fuel-wood, households, Lanchaan, leukoplakia, frictional keratosis, irritational fibroma.

Introduction
In the oral cavity, the most common lesions recognized as potentially malignant are *leukoplakia* and *erythroplakia*, but it is also apparent that as many as 50% of oral squamous cell carcinomas arise from apparently clinically normal mucosa.
At present, the gold standard diagnosis for the assessment of oral potentially malignant lesions is the microscopic evaluation of hematoxylin and eosin-stained (H & E) sections to evaluate the presence of architectural and cytological changes, which are generally referred to as *epithelial dysplasia*. Some authors use the term squamous intraepithelial neoplasia (SIN) or squamous intraepithelial lesions. In pathology, oral epithelial dysplasia is regarded as the standard terminology.
The latest WHO classification now recommends a more objective grading, which does, to some extent, take into account of levels of involvement. It should be noted at the outset that in the histological evaluation of oral potentially malignant lesions (usually clinical Leukoplakia), only about 50% of lesions show evidence of dysplasia, the remainder showing nonspecific hyperplasia and hyperkeratosis.
Mild dysplasia (grade I) represents the proliferation or hyperplasia of cells of the basal and parabasal layers which does not extend beyond the lower third of the epithelium. Cytological atypia is generally slight with mild Pleomorphism of cells or nuclei. Architectural changes are minimal.
Moderate dysplasia (grade II) represents a proliferation of atypical cells extending into the epithelium's middle one-third. The cytological changes are more severe than mild dysplasia and changes such as hyperchromatism, and prominent cell and nuclear Pleomorphism are seen. Increased and abnormal mitoses are present, but these are usually located in the basal layers.
In severe dysplasia (grade III) there is an abnormal proliferation in the basal layer into the upper third of the epithelium. Cytological and architectural changes can be very prominent. All these changes are seen in mild and moderate dysplasia but in addition, there is marked Pleomorphism often with abnormally large nuclei with prominent or even multiple nucleoli.

An inflammatory hyperplastic lesion may be defined as an increase in the size of an organ or tissue due to a local response of tissue to injury or an increase in the number of constituent cells. The traumatic irritants include calculi, foreign bodies, overhanging margins, restorations, margins of caries, chronic biting, sharp spicules of bones, and overextended borders of appliances.

Fibroma, is a benign neoplasm of fibroblastic origin, which is reactive in nature and represents a reactive hyperplasia of fibrous connective tissue in response to local irritation or trauma rather than being a true neoplasm. Irritational fibroma is a frequent, benign, slow-growing tumor of soft tissues that is asymptomatic and increases slowly in size.

Traumatic or irritation fibroma is the healed end product of the inflammatory hyperplastic lesion which can occur at any age from almost any soft-tissue site, tongue, gingiva, and buccal mucosa being the most common.

Case Presentation

A 62 years old male had reported to the Department of Oral and Maxillofacial Surgery, Swami Devi Dyal Hospital and dental college, Panckula, Haryana, India, with the chief complaint of growth in the left check mucosa region since 4 years.

History of present illness

The growth started initially as a small lesion for 2.5 years and then it steadily increased to the current size.

The patient was systemically healthy, but he had a long history of smoking for almost 30 years and at least 4-5 biddis per day. In addition, he denied any history of trauma in his oral cavity.

Intraoral inspection

The patient was found to have a unilateral well circumscribed, lobulated pink swelling measuring 5x4mm in greatest diameter in the left buccal mucosa near the corner of the mouth in relation to 34 and 35. Also, there was presence of homogenous greyish-white plaque on the left anterior buccal mucosa measuring 3.5cm x 2.5 cm showed cracked mud appearance.

Intraoral palpation

The raised swelling was firm in consistency and tender on palpation and the plaque was non-tender and non-scrapable.

Provisional diagnosis

Homogenous leukoplakia with irritational fibroma on left buccal mucosa at the corner of mouth.

Differential diagnosis

Considering the patient's age, frictional keratosis was included. Teeth wear in the elderly can cause frictional keratosis on the anterior buccal mucosa also involving corner of mouth.

Oral hyperplastic candidiasis was the next differential diagnosis that was considered, which is also commonly seen in the elderly vowing to the various medications they consume and diabetes mellitus that commonly causes xerostomia. This patient was neither diabetic nor was under any medication.

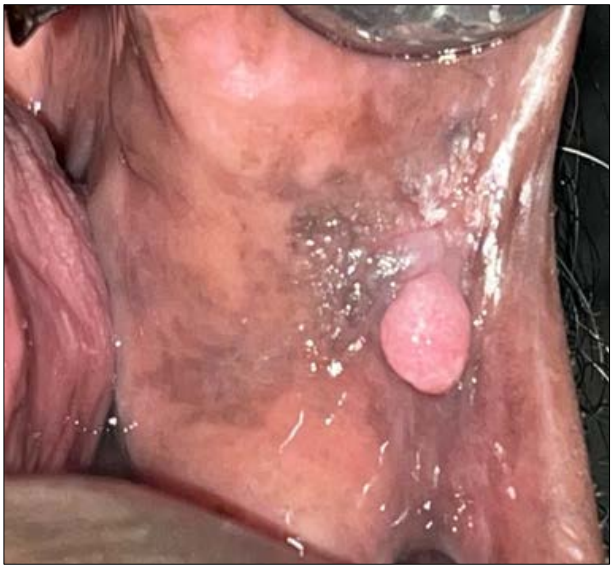

Fig 1: Well-circumscribed, pink lobule along with greyish-white patch on left anterior buccal mucosa.

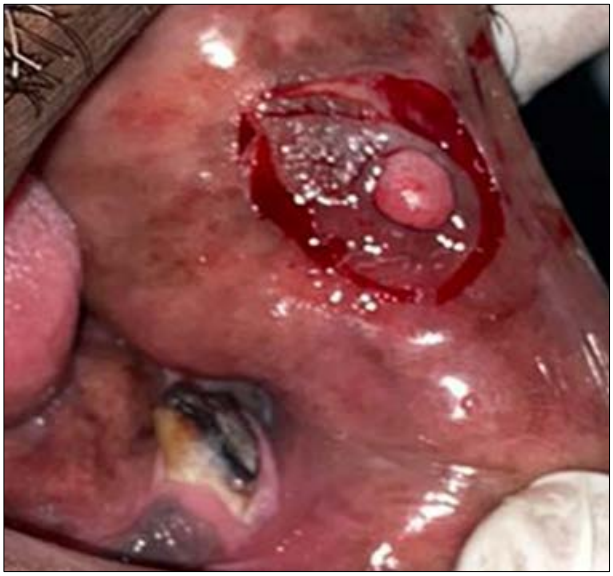

Fig 2: Elliptical incision was given around the lesion

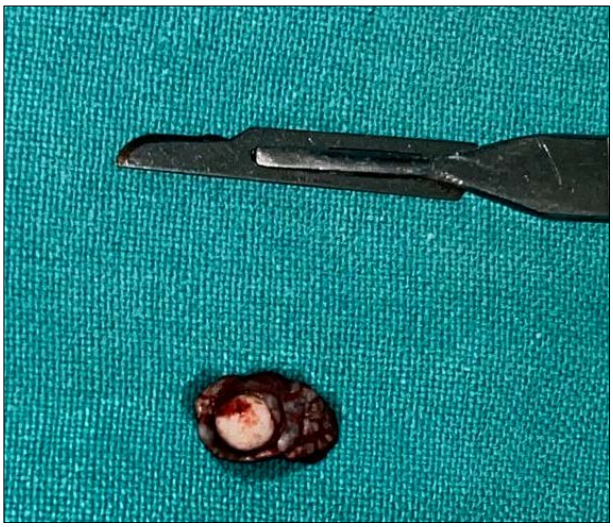

Fig 3: Excised lesion

Investigations
Incisional biopsy was planned and it included affected mucosa from the site.

Treatment
Complete excision of the lesion was performed followed by closure with sutures. During and after the surgery the patient reported no pain or discomfort. The soft tissue healing was satisfactory; no scarring could be detected over the operated area.

Histopathological investigations
The microscopic examination showed para-keratinized stratified squamous epithelium with dysplastic changes extending to middle third of the epithelium. The epithelium showed hyperkeratosis and nodular proliferation in one area. The epithelium lining the growth is hyperplastic with long rete-ridges extending within connective tissue stroma. The underlying Ct stroma is dense with numerous blood vessels and abundant inflammatory infilterate.
The above features are suggestive of moderate epithelial dysplasia with irrigational fibroma.

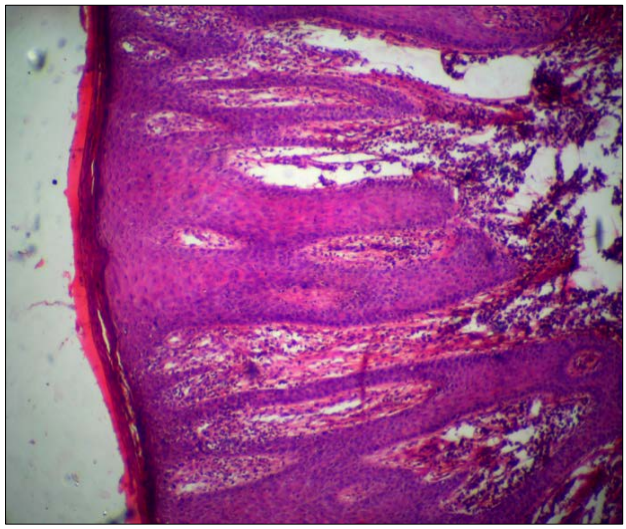

Fig 4: Para-keratinized stratified squamous epithelium with dysplastic changes extending to middle third of the epithelium.

Discussion
Fibroma is the result of a chronic repair process that involves the formation of granulation tissue and scars resulting in a fibrous sub-mucosal mass.
A study was performed by Santiago Torres Domingo *et al*. in 2008 to examine the occurrence and form of the most common oral mucosal benign tumours among 300 patients which revealed 153 (53.3%) histologically diagnosed as fibroma, indicating that it is the most common oral cavity benign tumour.

There are two types of patterns
1. Radiating pattern
2. Circular pattern.

Thus, they hypothesized that when there is a greater degree of trauma, the former appears in sites that are immobile in nature (e.g., palate), while lesser trauma induces the latter and occurs in sites that are flexible in nature (e.g., cheeks).

Recurrences are rare and may be caused by repetitive trauma at the same site. These lesion does not have a risk for malignancy.
Leukoplakia is a rare potentially malignant lesion, usually found on the oral mucosa with an increased risk of malignant transformation. The risk of malignant transformation increases with age. The onset is usually seen after the age of 30 years of age, with peak incidence seen above the age of 50 years.

Clinical types of Leukoplakia
a) According to WHO (1998)
- **Thin, smooth leukoplakia:** Translucent thin grey soft flat plaques usually with sharply demarcated borders.
- **Thick, fissured leukoplakia:** 2/3 of white plaques have a distinctly white appearance, fissured and is leathery to palpation.
- **Granular, verruciform leukoplakia:** Lesions have surface irregularities of nodular or granular nature with a verrucous appearance.
- **Erythroleukoplakia:** Lesion showing intermixed red and white areas.

b) Warnakulasuriya *et al*. (2007) [12]
Homogeneous leukoplakia - Homogeneous lesions are uniformly flat, and thin, and exhibit shallow cracks of the surface keratin. The risk of malignant transformation is relatively low.

Non-Homogenous leukoplakia
- **Speckled leukoplakia:** Mixed, white and red, but retaining the predominantly white character
- **Nodular leukoplakia:** Small polypoid outgrowths, rounded red or white excrescences
- **Verrucous-leukoplakia:** Wrinkled or corrugated surface appearance.

Staging System
A clinical staging system for oral leukoplakia (OL system) on the lines of TNM staging was recommended by WHO in 2005 taking into account the size (L) and the histopathological features (P) of the lesion.
(L - Size of leukoplakia).
L1 - Size of leukoplakia is < 2 cm.
L2 - Size of leukoplakia is 2-4 cm.
L3 - Size of leukoplakia is > 4 cm.
Lx - Size of leukoplakia is not specie.
I. (P-Pathology).
Px - Dysplasia not specified in pathology report.
P0 - No epithelial dysplasia.
P1 - Mild to moderate epithelial dysplasia.
P2 - Severe epithelial dysplasia.
OLEP Staging System.
Stage I L1P0.
Stage II L2P0.
Stage III L3P0 or L1/L2P1.
Stage IVL3P1or any LP2.

In the assessment of oral potentially malignant lesions, much reliance is put upon the microscopic diagnosis and grading of the changes of cytological atypia.
The diagnosis and grading of oral epithelial dysplasia are based on a combination of architectural and cytological changes, but evaluation of these is subjective and has been

subject to considerable inter- and intra-observer variations in the grading of lesions.

Cellular changes are abnormal variation in nuclear size and shape (Anisonucleosis and Pleomorphism), abnormal variation in cell size and shape (Anisocytosis and Pleomorphism), increased nuclear/cytoplasmic ratio, enlarged nuclei and cells, hyperchromatic nuclei, I increased mitotic figures, abnormal mitotic figures (abnormal in shape or location) increased number and size of nucleoli.

Architectural (Tissue) changes are loss of polarity, disordered maturation from basal to squamous cells, including top-to-bottom change of carcinoma in situ, increased cellular density, basal cell hyperplasia, dyskeratosis (premature keratinization and keratin pearls deep in epithelium), bulbous drop-shaped rete pegs and secondary extensions (nodules) on rete tips.

According to various studies, the recurrence of oral leukoplakia after surgical treatment has been reported in 10% [22] to 15% cases. In Such recurrent lesions, the excision should be done, including 2 mm to 3 mm of the surrounding healthy margin.

Summary and Conclusions

Oral potentially malignant lesions are characterized most frequently by the appearance of white patches (leukoplakia) on the oral mucosa. Overall malignant progression in these lesions is only of the order of 5% and there are no currently accepted markers to distinguish those that may progress from those that may not. The current gold standard is the finding of epithelial dysplasia on a tissue biopsy. Diagnosis of dysplasia is subjective and considerable experience needs to be accrued before the significance of the variable features become fully apparent. The WHO guidelines are helpful in providing more objective criteria for grading. Overall however only about 50% of biopsied clinical Sleukoplakias show epithelial dysplasia and not all lesions progress. A maximum of 50% of severe dysplasia, 30% of moderate dysplasia and very few (5%) mild dysplasia are thought to progress to cancer.

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Conflict of interest

The authors declare no conflict of interest.

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