

## ORAL LEUCOPLAKIA

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Oral leucoplakia was predominantly seen in elderly age group. Addiction to tobacco was observed in majority of patients (80.8%). Clinically commonest site of involvement was buccal mucosa (67.33%), followed by labial mucosa (13.86%). Majority of patients (57.35%) were having homogenous type of leucoplakia, followed by verrucous variety (25%). 26-48% cases were also having oral submucous fibrosis. Histologically various combinations of hyperkeratosis, hyperorthokeratosis and acanthosis were observed in 77.93% of cases. Dysplastic lesions were reported in 17.65% cases. In 80% of dysplastic lesions, band like infiltrate of mononuclear cells in subepithelial zone was seen. Malignant transformation was noticed in 2.94% cases. Excellent therapeutic results were obtained by cryosurgery. In resistant cases good results were observed with high dosage of vitamin A.

**Key Word :** Oral leucoplakia, Epidemiology, Histology, Vitamin A, Cryosurgery

### Introduction

In ancient literature leucoplakia was first described by Shushruta, in 600 BC. who called it as *Sanipataj Rog*. In modern literature the term leucoplakia first appeared in dental literature in 1877.

In the present study a modest attempt is made for comprehensive study of aetiopathogenesis and management of oral leucoplakia.

### Materials and Methods

The present study was conducted on 68 patients of oral leucoplakia attending ENT OPD at University Hospital, Banaras Hindu University, Varanasi. After detailed history and complete examination, biopsy was taken in all cases to confirm the diagnosis. Routine haematological tests were also done. Once diagnosis was established, patients were subjected to various modalities of treatment. Conservative treatment in form of removal of all irritant factors, alongwith vitamins and

antiseptic mouth-washes were prescribed to all patients. Surgical excision was done in patients having multiple dysplastic lesions. Patients were kept on regular follow up for 2 years.

### Results

The incidence of oral leucoplakia was maximum in 5th and 6th decades of life. Youngest patient was 16 years old while oldest was 67 years of age. There were 52 males and 16 females. 67.65% cases were regularly using spicy food and chillies. Commercial preparations containing powdered tobacco for cleaning teeth were used by 33.8% patients, while 26.47% patients were using ash and charcoal. 23.5% patients were using alcohol containing mouth washes. Total 80.8% patients were habituated to various forms of tobacco; either in form of tobacco chewing or cigarette/biri smoking, alone or in combinations. 7.35% patients were habituated to alcohol also. 17.65% patients were using artificial dentures.

On clinical examination 67.65% patients were having poor oral hygiene. Sharp teeth/tooth were present in 38.24% cases. Anatomical location of 101 leucoplakic lesions in 68 patients is given in Table I. Most common site for lesions was buccal mucosa

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**Table I. Anatomical Sites of Lesions**

Sl. No.	Locations	Total No.	%
1.	Labial Mucosa	14	13.86
2.	Buccal Mucosa	68	67.33
3.	Tongue	12	11.88
4.	Commissures	4	3.96
5.	Palate	2.	1.98
6.	Alveolar ridge	1	0.99

(67.33% lesions) followed by labial mucosa (13.86% lesions) and tongue (11.88% lesions). Among three clinical types of leucoplakia; homogenous type was present in 57.35% cases, verrucous type in 25% cases and speckled type in 17.65% cases (Table II).

**Table II. Incidence of Clinical Types of Leucoplakia**

Sl. No.	Types of Leucoplakia	Total No. of Cases	%
1.	Homogenous	39	57.35
2.	Verrucous	17	25.00
3.	Speckled	12	17.65
Total		68	100.00

26.48% patients were having oral submucous fibrosis alongwith leucoplakic lesions. In present study one patient (1.47%) was having malignant growth over the lower lip. Haematological investigations revealed anaemia in 63.24% cases. Histopathological observations has been shown in Table III.

**Table III. Histopathological Changes**

Sl. No.	Histopathological Changes	Total No. of Cases	%
1.	Keratinisation	53	77.93
2.	Inflammatory Changes	12	17.65
3.	Atrophic Changes	33	48.53
4.	Dysplasia	12	17.65
5.	Malignant Changes	3	4.41

There was keratinisation in 77.93% cases, inflammatory changes in 17.65%, atrophic changes in 48.53% cases and malignant changes in 4.41% cases. Among cases having keratinisation, 60.38% had hyperorthokeratosis while 39.62% cases had

hyperparakeratosis. Total incidence of epithelial dysplasia was 17.65% with mild to moderate dysplasia in 13.24% and severe dysplasia in 4.41% cases. Band like infiltrate of mononuclear cells was observed in 80% cases of dysplastic lesions. Basal cell liquifaction was noticed in 75% cases. Incidence of epithelial dysplasia was maximum in speckled type (Table IV). A total of three

**Table IV. Epithelial Dysplasia in three types of Leucoplakia**

Sl. No.	Types	Total No. cases	Total No. of Epithelial dysplasia	%
1.	Homogenous	39	3	7.69
2.	Verrucous	17	2	11.76
3.	Speckled	12	7	58.33

malignant cases were found in present study. In one case (1.47%) there was co-existence of carcinoma lower lip and oral leucoplakia. Malignant transformation during follow up period was noted in 2 cases (2.94%). Both the cases of malignant transformation were of speckled type of leucoplakia (16.47%).

Conservative treatment was advised to all patients. Surgical excision was done in 9 patients (13.24%) and cryosurgery was done in 6 patients (8.82%). Complete response was noted in 38.24%, partial response in 14.70%, no response in 44.12% and progressive lesions in 2.94% cases. Overall subjective response was observed in 88.20% cases. All 30 patients who had no response, were treated with high dosage of vitamin A systemically. There was complete response in 24 cases (80%) and partial response in 6 cases (20%).

## Comments

In present series incidence of oral leucoplakia was maximum in 5th and 6th decades with predominance of male. These

findings are similar to observations made by many workers.<sup>1-3</sup> The high male : female ratio is secondary to difference in oral habits rather than biological sex difference.

Spices and chillies act as a continuous irritant to oral mucosa when they are used for prolonged period. Improper cleaning of teeth and oral cavity by ash, charcoal and Gul (a tooth powder containing tobacco) were contributory factors for oral sepsis. Ash, charcoal and Gul are continuous irritant to oral mucosa. Chemical irritation from use of tobacco products has been linked to leucoplakia formation by many workers.<sup>3,4</sup> 17.65% were using artificial dentures. Sharp edges of dentures usually cause trauma to buccal mucosa which is a common stimulus for excessive keratin formation and thereby leucoplakia formation.<sup>5</sup> Commonest site for lesion was buccal mucosa. Similar observations were made by Mehta et al.<sup>4</sup> Banoczy and Ciba<sup>6</sup> in a longitudinal study observed 56% cases of homogenous, 27% of verrucous and 17% cases of speckled leucoplakia. This is similar to present series.

Histopathological picture observed in present study is more or less similar to as reported earlier.<sup>2,7,8</sup> Incidence of epithelial dysplasia in this series is also similar to the findings of Banoczy and Ciba.<sup>6</sup>

In 80% of dysplastic lesions there was basal cells liquifaction and band like infiltrate in subepithelial zone. This relationship has not been well understood and not reported in literature reviewed. However it can be presumed that in the cases of leucoplakia undergoing dysplastic changes, there might be some immunological mechanism triggering the mononuclear cells infiltrate.

Excellent result of cryosurgery has been reported by many workers. Complete regression was reported in persistent lesions but recurrence was noticed after discontinuation of treatment.<sup>9,10</sup> In present study no recurrence was seen even after two years of follow up.

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