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## Prevalence of DM and hypertension with OLP in Kashmiri population

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### Abstract

**Background:** To assess the prevalence of DM and hypertension with OLP in Kashmiri population.

**Materials & Methods:** A total of 50 confirmed diagnosis of oral lichen planus were enrolled in the present study. Complete demographic and clinical details of all the subjects was obtained. A Performa was made and detailed clinical findings of all the subjects was recorded. Blood sugar levels were evaluated in all the patients. Criteria defined by American diabetic association was used for identification of diabetes. Blood pressure was recorded and hypertensive patients were evaluated

**Results:** Mean age of the patients was 42.5 years. 58 percent of the patients were males while the remaining were females. 62 percent of the patients were of urban residence. Diabetes and hypertension were found to be present in 30 percent and 46 percent of the patients respectively.

**Conclusion:** Significant proportion of OLP patients are diabetic and hypertensive. Hence; further researchers are required for establishing their exact role in OLP.

**Keywords:** Diabetes, hypertension, oral lichen planus

### Introduction

Lichen planus is a chronic inflammatory, autoimmune, mucocutaneous disease of unknown etiology. The word lichen planus is derived from Greek word “lichen” means tree moss and “planus” means flat. In Indian population the prevalence of oral lichen planus is 2.6 % with female preponderance. The malignant transformation rate of OLP is 0.5 % to 2 % and is considered to be a potentially malignant lesion <sup>[1, 2]</sup>.

Diabetes mellitus (DM) is a metabolic disease, involving inappropriately elevated blood glucose levels. DM has several categories, including type 1, type 2, maturity-onset diabetes of the young (MODY), gestational diabetes, neonatal diabetes, and secondary causes due to endocrinopathies, steroid use, etc. The main subtypes of DM are Type 1 diabetes mellitus (T1DM) and Type 2 diabetes mellitus (T2DM), which classically result from defective insulin secretion (T1DM) and/or action (T2DM) <sup>[3]</sup>.

The current definition of hypertension (HTN) is systolic blood pressure (SBP) values of 130 mmHg or more and/or diastolic blood pressure (DBP) more than 80 mmHg. Hypertension ranks among the most common chronic medical condition characterized by a persistent elevation in the arterial pressure. Hypertension has been among the most studied topics of the previous century and has been one of the most significant comorbidities contributing to the development of stroke, myocardial infarction, heart failure, and renal failure <sup>[4- 6]</sup>. hence; the present study was conducted for evaluating the prevalence of DM and hypertension with OLP in Kashmiri population.

### Materials & Methods

The present study was conducted in the Department of Oral Medicine and Radiology Govt. Dental College and Hospital Srinagar for evaluating the prevalence of DM and hypertension with OLP in Kashmiri population. A total of 50 confirmed diagnosis of oral lichen planus were enrolled in the present study. Complete demographic and clinical details of all the subjects was obtained. A Performa was made and detailed clinical findings of all the subjects was recorded.

Blood sugar levels were evaluated in all the patients. Criteria defined by American diabetic association was used for identification of diabetes. Blood pressure was recorded and hypertensive patients were evaluated. All the results were recorded in Microsoft excel sheet and were analysed using SPSS software.

## Results

Mean age of the patients was 42.5 years. 58 percent of the patients were males while the remaining were females. 62 percent of the patients were of urban residence. Diabetes and hypertension were found to be present in 30 percent and 46 percent of the patients respectively.

**Table 1:** Demographic details

Variable	Number	Percentage
Mean age (years)	42.5 years	
Males	29	58
Females	21	42
Rural	19	38
Urban	31	62

**Table 2:** Prevalence of diabetes and hypertension

Variable	Number	Percentage
Diabetes mellitus	15	30
Hypertension	23	46

## Discussion

The precise ethology of oral lichen planus is unsure, however the immunological system is believed to play a major role in it with a prolonged clinical course despite varied treatment modalities. The age of onset is sometimes between third and six decade of life and is remarkably seen in Asian population. The prevalence of OLP is 1-2 % within the general population whereas its prevalence in Indian population is 2.6 %. And is preponderantly seen in females [1, 2]. Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycemia. It may be due to impaired insulin secretion, resistance to peripheral actions of insulin, or both. Chronic hyperglycemia in synergy with the other metabolic aberrations in patients with diabetes mellitus can cause damage to various organ systems, leading to the development of disabling and life-threatening health complications, most prominent of which are micro vascular (retinopathy, nephropathy, and neuropathy) and macro vascular complications leading to a 2-fold to 4-fold increased risk of cardiovascular diseases [6-8]. Systemic arterial hypertension is the most important modifiable risk factor for all-cause morbidity and mortality worldwide and is associated with increased risk of cardiovascular disease (CVD). Fewer than half of those with hypertension are aware of their condition, and many others are aware but not treated or inadequately treated, although successful treatment of hypertension reduces the global burden of disease and mortality. The aetiology of hypertension involves the complex interplay of environmental and pathophysiological factors that affect multiple systems, as well as genetic predisposition [7-9]. Hence; the present study was conducted for evaluating the prevalence of DM and hypertension with OLP in Kashmiri population.

Mean age of the patients was 42.5 years. 58 percent of the patients were males while the remaining were females. 62 percent of the patients were of urban residence. Diabetes and hypertension were found to be present in 30 percent and 46 percent of the patients respectively. In a previous study conducted by Owais Gowhar *et al*, authors assessed the

prevalence of oral lichen planus among diabetic patients. 1000 diabetes patients were enrolled for the study. The subjects were examined for the presence/absence of oral lichen planus and the data was recorded and analysed. Out of 1000 diabetic patients 12 (1.2 %) were having oral lichen planus and 11 patients belonged to type II diabetes mellitus. Among the subjects suffering from Type I Diabetes, only one patient was diagnosed of having oral lichen planus. Out of 12 (1.2 %) patients having oral lichen planus four patients were having high blood pressure suggesting Grin span's syndrome (33.3 %). The prevalence of oral lichen planus among diabetic patients was found to be 1.2 %; additionally some patients had high blood pressure that suggests the existence of Grin span's syndrome [10].

Albrecht M *et al* assessment leukoplakia and oral lichen planus patients for occurrence of diabetic and hypertension. The occurrence of oral leukoplakia and lichen planus in 1600 patients with diabetes mellitus (815 type 1: insulin-dependent, 761 type 2: non-insulin-dependent)-under care at the International Medicine Department-was studied. Precancerous lesions and conditions were diagnosed and grouped according to internationally accepted criteria. The prevalence of oral leukoplakia in diabetic patients was 6.2 %, as compared to 2.2 % in the healthy controls that of oral lichen was 1.0 % in the test- and 0.0 % in the control group. Leukoplakia and lichen both showed the highest occurrence in the second year of established diabetes, and their prevalence was higher among insulin-treated diabetics. Smokers were more often affected, by both kind of lesions, oral lichen showed a more frequent association with candidiasis. The prevalence of oral leukoplakia and lichen in diabetes mellitus patients was higher, than average ratios in population samples from the same country [11].

## Conclusion

Significant proportion of OLP patients are diabetic and hypertensive. Hence; further researchers are required for establishing their exact role in OLP.

## Conflict of Interest

Not available

## Financial Support

Not available

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