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A Cross-Sectional Study of Oral Manifestations in Patients with Psoriasis

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Abstract

***Background**: It is unknown how often psoriatic lesions in the oral cavity are known to occur and what specific clinical and histological criteria they meet. While the incidence and clinical variance of psoriasis are varied in the literature, some non-specific lesions are more common in psoriatic patients compared to healthy individuals.* ***Methods:** A pre-tested and pre-validated questionnaire were used to fill the demographic profile of the patients including their personal history, history of present illness, and family history. including a history of cardiovascular disease and diabetes mellitus. Each patient underwent a thorough physical examination so that extracutaneous involvement, such as that of nails, and articular system, could be assessed. The extension of the involved area in different parts of the body of patients was calculated based on Psoriasis Area and Severity Index (PASI) score and recorded in the medical records of the patients by the physician. After that, the dental surgeon examined the complete oral cavity to determine the type and location of oral lesions.* ***Results:** Out of the total n=40 cases n=20(50%) had oral lesions and the remaining 50% did not have oral lesions. Out of the n=20 cases with lesions n=14(70.0%) had oral lesions at the beginning phase of psoriasis and n=7(30.0%) cases had oral lesions in the late phase of the disease. The most common type of oral lesion was fissured tongue in n=18(45%) of patients followed by geographic tongue in n=17(42.5%) of cases the other common oral lesions in the cases were angular cheilitis 12 (30.0%) of cases and white plaques in n=11(27.5%) of cases.* ***Conclusion:** True oral psoriasis is uncommon, but patients with psoriasis may frequently have non-specific mouth lesions. Routine evaluation of the oral cavity appears to be important in all individuals with the diagnosis of psoriasis since actual psoriatic oral lesions and nonspecific alterations are typically asymptomatic.*

***Keywords**: Oral lesions, Psoriasis, fissured tongue, fissured tongue, Psoriasis Area and Severity Index*

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Introduction

It is estimated that 2% of the population suffers from the dermatologic condition psoriasis. [1] The prevalence and clinical subtypes of various extra-cutaneous manifestations of psoriasis, such as psoriatic nails and psoriatic arthritis, as well as the cutaneous manifestations of the disease, are well established. [2-3] Before Oppenheim initially identified oral psoriasis in 1903 based on a biopsy of a buccal mucosal lesion in a patient with cutaneous psoriasis, it was long believed that psoriasis did not affect the oral cavity. [4] Since then, numerous publications have shown oral involvement with a variety of clinical features in patients with cutaneous psoriasis, including generalized, plaque-type, striate, patchy, or papular erythematous or white lesions. [5-7] The majority of these lesions had psoriasiform patterns upon biopsy, which was consistent with the diagnosis of oral psoriasis. However, due to the uncommon occurrence of psoriatic lesions in the oral cavity, knowledge about oral psoriasis is often restricted and based on case studies.

When compared to other papulosquamous disorders, oral lesions are less common in psoriasis due to their asymptomatic nature, according to Bruce et al., [8] Consequently, it is uncertain how often oral symptoms of psoriasis are present and what are the specific clinical and histological criteria. [9] True oral psoriasis is uncommon, but some non-specific lesions appear to be more common in psoriatic patients than in the general population. However, the incidence and clinical findings are inconsistent across the literature. [10, 11] Based on this background this study was conducted to determine the incidence of oral lesions and pattern of oral lesions detected in psoriasis cases reported to our hospital.

Materials and Methods

This study was conducted on patients known to suffer from psoriasis and on treatment. The method of sampling used was the convenient sampling method. Institutional Ethical approval was obtained for the study. Written consent was obtained from all the participants of the study. A pre-tested and pre-validated questionnaire was used to fill the demographic profile of the patients including their personal history, history of present illness, and family history. including a history of cardiovascular disease and diabetes mellitus. Each patient underwent a thorough physical examination so that extracutaneous involvement, such as that of nails, and articular system, could be assessed. The extension of the involved area in different parts of the body of patients was calculated based on Psoriasis Area and Severity Index (PASI) score [12] and recorded in the medical records of the patients by the physician. After that, the dental surgeon examined the complete oral cavity to determine the type and location of oral lesions.

Statistical analysis: The Statistical Package for the Social Sciences (SPSS) version 18.0 was used to analyze the data that had been gathered (SPSS Inc., Chicago, IL, USA). P <0.05 was regarded as statistically significant when calculating the connection between the variables under study using descriptive statistics tests such as the Chi-squared test and Fisher's exact test.

Results

A total of n=40 psoriasis patients were included in the study out of which n=15(37.5%) were males and n=25(62.5%) were females. The age range of the patients included in the study was 20 – 45 years and the mean age of the patients included in the study was 24.5 ± 5.5 years. Most of the patients were young aged from 20 – 25 years (37.5%) the age-wise distribution of the cases in the study have been depicted in table 1.

Table 1: Demographic profile of the cases included in the study

Age in years	Frequency	Percentage
20 – 25	15	37.5
26 – 30	10	25.0
31 – 35	08	20.0
36 – 40	04	10.0
> 40	03	07.5
Total	40	100

In most of the cases, 35.0 % in the study were suffering from psoriasis for a duration of 1 – 5 years followed by 27.5% having a duration between 5 – 10 years. 60% of cases were suffering from a mild form of psoriasis and 15% were suffering from a severe form of psoriasis based on the Psoriasis Area and Severity Index (PASI) score depicted in table 2.

Table 2: Duration of psoriasis and PSI scores in patients of the study

	Frequency	Percentage
Duration of disease		
< 1 year	08	20.0
1 – 5 years	14	35.0
5 - 10 years	11	27.5
> 10 years	07	17.5
Total	40	100.0
PSI Scores		
Mild	24	60.0
Moderate	10	25.0
Severe	06	15.0

Out of the total n=40 cases, n=20(50%) had oral lesions and the remaining 50% did not have oral lesions. Out of the n=20 cases with lesions n=14(70.0%) had oral lesions at the beginning phase of psoriasis and n=7(30.0%) cases had oral lesions in the late phase of the disease. The most common type of oral lesion was fissured tongue in n=18(45%) of patients followed by geographic tongue in n=17(42.5%) of cases the

other common oral lesions in the cases were angular cheilitis 12 (30.0%) of cases and white plaques in n=11(27.5%) of cases the sex wise and detailed distribution of the oral lesions has been depicted in table 3.

Table 3: Prevalence of oral lesions in males and females of the cases in the study

Oral Lesions	Males (n=15)	Females (n=25)	Total (%)
No lesions	7	13	20(50.0)
Fissured Tongue	8	10	18 (45.0)
Geographical tongue	8	9	17 (42.5)
White plaques	3	8	11 (27.5)
Erythematous plaques	2	3	5 (12.5)
Aphthous ulcers	1	4	5 (12.5)
Angular cheilitis	6	6	12 (30.0)

Joints were not involved in n=39(97.5%) of patients and were implicated in n=1(2.5%) f of cases. Nail involvement was found to be present in n=21(52.5%) of cases and n=29(72.5%) cases and systemic medications were prescribed in n=3(7.5%) of cases. Chronic plaque type of psoriasis (Vulgaris) was commonly found in n=28(70%) of patients followed by palmoplantar psoriasis in n=4(10%) of patients. Psoriatic nails were found in n=2(5%) of cases and guttate psoriasis, inverse psoriasis, generalized pustular psoriasis, chronic plaque psoriasis, psoriatic arthritis, chronic plaque-type psoriasis, and palmoplantar psoriasis were found in n=1(2.5%) case each.

Discussion

Psoriasis is a widespread skin condition, research shows that only a small percentage of psoriatic individuals have oral mucosa involvement, which is still debatable. [10, 13] The current study looked at the prevalence of oral lesions in psoriatic individuals as well as a potential correlation between psoriasis severity and oral lesions. Our findings revealed no connection between sex and the frequency of lesions in psoriatic individuals. In contrast, there was a strong association between the prevalence of oral mucosa lesions in psoriatic patients and age (P = 0.032), the history of oral lesions, and the time since psoriasis first appeared (P 0.041). This study's 46.9% prevalence of oral lesions was within the range reported by Azmi et al., [14] and lower than that of Griffiths et al., [15] and Pérez et al., [10]. We found no connection between sex and the occurrence of oral lesions in psoriatic individuals. Similar to Perez FH et al., [10] the majority of our patients were between the ages of 21 and 30, and the average age of our patients was 31.71; however, this result differed from that reported by Pérez et al., [10] In addition to being more common in psoriasis, the fissured tongue is a developmental abnormality of the tongue dorsum that is most frequently linked to the geographic tongue. [16-18] A review of the literature revealed that geographic tongue prevalence ranged from 5.6% to 18.1% and that the prevalence of fissured tongue ranged from 9.8% to 47.5%. [16] Similar to other studies, this study found that fissured tongue (45%), GT geographic tongue (42.5%), and both lesions (1.7%) were the most prevalent types of oral lesions, indicating that psoriatic individuals were more likely to develop these two lesions.

The prevalence of Fissured tongue in our investigation was greater than Daneshpazhooh et al., [19] (33%) and almost identical to Hernandes-Pérez et al. (47.5%). The higher prevalence of these lesions among psoriatic patients can be inferred from the difference in the prevalence of these lesions between our study and previous studies. [18, 20] This study found chronic plaque type of psoriasis (Vulgaris) was commonly found in n=28(70%) of patients followed by palmoplantar psoriasis in n=4(10%) of patients. According to a similar study by Germi et al., [21] on psoriatic patients (FT: 22.6%, GT: 9.1%), FT and GT may be an oral manifestation of plaque-type psoriasis. Psoriasis and fissured geographic tongue were found to be strongly correlated with psoriasis in a different study by Tomb et al., [22] In their analysis, Daneshpazhooh et al., [19] al., found that 32% of patients with psoriasis and GT had severe psoriasis, suggesting a link between the severity of the disease and this lesion. Additionally, this study discovered that psoriatic individuals usually experienced nonspecific oral lesions. [15] This study also showed a substantial association between the prevalence of oral lesions in psoriatic patients and disease initiation, with oral lesions beginning in 70% of psoriatic patients at an early stage of the disease and 10% after the disease. According to the Zargari et al. study, 7% of individuals with early psoriasis and 1% of patients with late psoriasis had a geographical tongue. They concluded that the severity of the disease may be assessed by

the frequency of geographic tongue in early psoriasis. [20] In less severe cases, as measured by PASI scores, the difference was not statistically significant. [14] In the current study, 2.5% of patients had joint involvement, and patients also had concurrent mouth lesions. Our findings revealed no discernible relationship between joint involvement and mouth lesions in psoriasis. On the other hand, face involvement (55%) was shown by Keshavarz et al., [23] along with geographic tongue (24%) and psoriatic arthritis (13%). they concluded that the severity of the disease is significantly correlated with the facial lesion. [23]

Conclusion

True oral psoriasis is uncommon, but patients with psoriasis may frequently have non-specific mouth lesions. Routine evaluation of the oral cavity appears to be important in all individuals with the diagnosis of psoriasis since actual psoriatic oral lesions and nonspecific alterations are typically asymptomatic.

***Conflict of Interest*: None**
***Source of support*: Nil**
***Ethical Permission*: Obtained**

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