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Recurrent Aphthous Ulcers (RAS) and Its Prevalence among People of Punjab

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OBJECTIVE: At times neglected, an oral ulcer is usually benign in nature and resolves spontaneously, however, a small proportion of it are malignant in nature.

AIM: To determine the prevalence of recurrent aphthous ulcers (RAS) screened in different locations in the Indian state of Punjab. **Material and Methods:** over a period of three months, a total of 2245 patients were screened among various camps organized around various states of Punjab using an ADA Type IV examination with recording a detailed family and medical history. Data was analysed using SPSS version 19.0.

RESULTS: 779 patients presented with recurrent aphthous ulceration (34.7%). Females (413, 53.1%) were more commonly affected than males (366, 46.9%) with those being affected in the Patients in the third and fourth decade of their life and this difference was statistically significant. The most factor associated was stress stomatitis seen in 453 patients (58.2%). Food consumed was the second common factor related with the condition (121 patients, 15.5%), closely followed by nutritional deficiency (113 patients, 14.5%). There were no significant difference seen between any of the factors and the occurrence of RAS in the patients.

CONCLUSION: It was revealed that recurrent aphthous ulceration is a common mucosal disorder in the people of Punjab. Early, proper and prompt diagnosis of the ulcers will help the dental practitioner in providing information to the patient, educate the patient regarding this condition and regarding and management of the condition.

KEYWORDS: Recurrent Aphthous Ulcers, Pain, Stress

INTRODUCTION

A common complaint among patients, Oral ulcers affect approximately 4% of people worldwide with 25% of these ulcers classified as Recurrent Aphthous ulcers (RAS).^{1,2} Its origin is derived from the Greek Word, "Apthae" meaning ulceration and clinical manifestations include multiple, small, round, or ovoid ulcers, with circumscribed margins, covered by a yellowish or gray-white fibrinous exudate and surrounded by an erythematous halo, and present first in childhood or adolescence.³ These ulcers are associated with intense or moderate pain; and heal in 10-14 days for the more common type and more than 2 weeks for the severe type. Its recurrence occurs in intervals spanning within a year or over several years depending on various factors.⁴

The triggering factors for an episode of RAS is unknown and extensive research in a large patient series identify a range of local, hematological, gastrointestinal, immunologic, genetic, nutritional, allergic, psychological, and medication reactions as the most probable triggers in few patients with RAS.^{5,6} The ulcerative stage lasts for 3-7 days. The healing stage is identified by

the abrupt cessation of pain and the appearance of granulations within the decreasing surface exudate. The remission stage identifies the ulcer-free periods and triggered by some dietary items and occasionally in the premenstrual phase.⁵

These ulcers have a potential to affect the one's quality of life and hence, this present study was undertaken with the aim to assess the prevalence of recurrent aphthous ulcers (RAS) screened in different locations in the Indian state of Punjab.

MATERIALS AND METHODS

This prospective study included patients screened at various places in the Indian state of Punjab through organization of various dental camps for a period of three months (October 2018-December 2018) after obtaining proper ethical clearance and required permissions. The patients were duly informed regarding the confidentiality of their data and was coded to prevent any misuse of the same.

A total of 2245 patients from all age groups were screened using an ADA Type IV examination. Any

patient with suspected malignant ulcers based on clinical examination were excluded from the study and sent for further diagnosis and confirmation of the lesion.

The aphthous included the minor, major and herpetic types, which are characterized by recurrence. A detailed family and medical history and history in relation with any habits of tobacco/smoking/alcohol was recorded. Medical history included any systemic disease, association of ulcers with menstrual cycle, any medication, and any associated ulcers involving organs like skin, vagina, eye or joints and the lymph nodes were also examined.

Medication taken for the condition were duly asked and noted. They were also enquired about other independent factors related to the condition and for those diagnosed as having any type of RAS, Were advised to undergo Full blood count (FBC), erythrocyte sedimentation rate (ESR), Rheumatoid factor, serum folate, vitamin B12 and ferritin levels tests. Data was analysed using SPSS version 19.0 and subject to statistical tests (t-test) as described in the results.

RESULTS

Table 1 is a brief description of the patients screened according to the decades and presence of ulcers. It was observed that of the total of 2245 patients screened, RAS was found in 779 patients (prevalence: 34.7%) and the maximum was seen in the third (22.6%) and fourth decade(26.58%) of life.

AGE (In Years)	No. of Patients	%
1-10	76	9.76
11-20	85	10.91
21-30	176	22.60
31-40	207	26.58
41-50	78	10.01
51-60	76	9.76
>60	81	10.38
TOTAL	779	100

Table 1. Presence of RAS among various age groups in the screened population

Gender-wise distribution is seen in table 2 and RAS was seen more in Females (413, 53.1%) as compared to males (366, 46.9%) and the presence of RAS according to gender was found out to be statistically significant ($p=0.01$).

GENDER	No. of Patients	%	P (t-test)
Males	366	46.9	0.01* (Significant)
Females	413	53.1	
TOTAL	779	100	

Table 2. Gender-wise distribution of RAS in the study population

Table 3 presents information regarding the factors related to RAS in the present study. Stress was identified as the most common factor, leading to recurrent ulcerations in 453 patients (58.2%). Food consumed was the second common factor related with the condition (121 patients, 15.5%), closely followed by nutritional deficiency (113 patients, 14.5%). There were no significant difference seen between any of the factors and the occurrence of RAS in the patients.

FACTORS	No. of Patients	%	P value (t-test)
Stress	453	58.2	NS
Food consumed	121	15.5	NS
Nutritional Deficiency	113	14.5	NS
Other Factors	92	11.8	NS
TOTAL	779	100	NS

Table 3. Factors causing RAS in the study population

DISCUSSION

The present study, with the aim to determine the prevalence of recurrent aphthous ulcers (RAS) in the Indian state of Punjab revealed that the prevalence of RAS in Punjab was 34.7%, Females were more affected as compared to males with RAS occurring more commonly in the third and fourth decades of life. Stress was identified as the most common factor, leading to recurrent ulcerations in 453 patients (58.2%). Food consumed was the second common factor related with the condition (121 patients, 15.5%), closely

followed by nutritional deficiency (113 patients, 14.5%).

RAS is a common oral mucosal condition and has been reported as affecting 20% of the general population at any time,^{7,8} and the findings of the present study (34.7%) is on the higher side as compared to the abovementioned statement. However, Safadi RA reported a prevalence of 78% in the Jordanian population, which is higher in comparison to the findings of the present study.⁹ In disagreement to the results of the present study, Bhatnagar P et al.(1.53%),¹⁰ Patil S et al.¹¹ (21.7%) and Davatchi F et al. (25.2%).¹²

The etiopathogenesis of RAS is still unclear, although various agents have been identified for its causation. As per Shohat-Zabarski R,¹³ Genetic factors are likely to cause RAS in patients, and more than 40% of affected individuals have first degree relatives with a diagnosis of RAS. Another theory suggests an immunologic basis for RAS while recently, a cross reactivity between a streptococcal heat shock protein (hsp) and the human mitochondria hsp in the oral mucosa, which may lead to a T-cell mediated response to antigens is stated.¹⁴ There also seems to be a negative association between smoking and RAS although some patients report the onset of oral ulcers after smoking cessation.¹⁵ While stress was found to be a common cause for RAS (58.2%) and was supported by Patil S et al,¹¹ there is little substantive evidence to link stress to RAS.¹⁶

In the present study, Females (53.1%) were more frequently affected than males (46.9%) and this difference was observed to be statistically significant ($p=0.01$) and are in agreement to Patil S et al.¹¹ and Safadi RA.⁹ The reason for such findings can be that females are more prone to stress and emotional situations which can affect their immune response along with hormonal changes during pregnancy and menstruation.¹¹

CONCLUSION

The present study documents an increased prevalence of RAS of the population in Punjab and efforts should be directed to screen such patients. Also, awareness campaigns are also advised to motivate people to get their oral check-up done at regular intervals for any such potential problem arising in their oral cavity.

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