

Presentation of recurrent aphthous ulcer among patients in a tertiary hospital.

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ABSTRACT:

Objectives: To determine the prevalence of recurrent aphthous ulcer and the gender and age distribution of the various subtypes of recurrent aphthous ulcer among patients utilizing dental services in University of Benin Teaching Hospital (UBTH).

Methods: A retrospective cross sectional study was carried out in Oral Medicine Clinic, UBTH. Data of patients with recurrent aphthous ulcers were collected and analyzed with IBM SPSS version 21.0 software. The association between age and gender distribution amongst patients was analyzed using Chi squared test. The level of significance was set at $P < 0.05$.

Results: The prevalence of recurrent aphthous ulcer in the study was found to be 7.2%, with 54.5% of cases seen in male patients and 45.5% in female. Most of the patients ($n=9$, 41.0%) were within the 21-30 years age group. Eleven (50.0%) cases of recurrent aphthous ulcer were found to be of the minor subtype with more female preponderance (27.4%), while 8(36.4%) had the herpetiform subtype with equal gender distribution and the least (13.6%) was the major subtype found only in male patients.

Conclusion: The study revealed an overall prevalence of 7.2% of recurrent aphthous ulcers with higher occurrence among males. Most of the patients were in the third decade of life. The most common subtype of recurrent aphthous ulcer was the minor type.

Keywords: Recurrent aphthous ulcer, prevalence, outpatient department.

INTRODUCTION: Oral ulceration is a common complaint of patients attending out-patient department.^{1,2} The estimated point prevalence of oral ulcers worldwide is 4%, with aphthous ulcers being the most common, affecting as many as 25% of the population.¹ The term "aphthous" is derived from a Greek word "aphthae" which means ulceration.³ The term was first used by Hippocrates and later described by Mikulicz and Kummel as 'Mikulicz's aphthae'.⁴ Recurrent aphthous ulcers (RAU) represent a very common but poorly understood mucosal disorder occurring in men and women of all ages, races and geographic regions.³ The lesion starts in childhood or adolescence as recurrent small, round or ovoid ulcers with circumscribed margins, erythematous haloes and yellow or grey floor,^{5,6} A prodromal burning sensation lasting 24 to 48 hours

can often precede the onset of ulcers. They are quite painful and the natural course is one of eventual remission^{6,7}. They clinically present in 3 different forms: minor, major and herpetiform types⁸. Minor RAU which makes up more than 80% of all RAU cases, is a small (up to 1 cm in diameter), shallow, painful, well circumscribed and round-shaped ulceration that is covered by a yellow-grayish pseudo membrane and surrounded by an erythematous halo. The ulceration generally heals without scarring after 10 to 14 days. Major RAU is characterized by ulcers that are typically larger and deeper than minor RAU. Furthermore, they heal more slowly and often cause scarring. Herpetiform ulcers manifest as multiple recurrent clusters of small ulcers (less than 4 mm in diameter) that are scattered throughout the oral mucosa. These ulcers have short healing period similar to the minor RAU and may further coalesce into larger ulcerations⁸⁻¹⁰. Recurrent aphthous ulcer, even though not life threatening, can significantly affect the health-related quality of life of an individual. It is known to affect as many as 25% of population.¹ Hence, it results in regular hospital visits with its attendant strain on health facilities and loss of manpower with overall negative impact on the productive economy. Since

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these ulcers have a significant negative impact on the oral health, affecting the quality of life of an individual, it is important to know the distribution of these ulcerations in the general population. No studies have been done to estimate the prevalence of RAU in Nigeria. Therefore, the aim of this study is to assess the prevalence, age and sex distribution of the various subtypes of recurrent aphthous ulcer among patients utilizing dental services in University of Benin Teaching Hospital (UBTH), Edo State, Nigeria, with a view to making recommendations that will guide health interventions.

METHODS

This was a retrospective cross-sectional study carried out among patients utilizing dental services in Oral Medicine Clinic, Department of Oral Pathology and Medicine, University of Benin Teaching Hospital from January 2014 to April 2016. The medical records, laboratory and histopathology reports of all the patients seen within the study period were reviewed. All patients who had diagnosis of recurrent aphthous ulcers were selected for study. Data collected included Age, Sex and Diagnosis of the various types of recurrent aphthous ulcers which included the major, minor and herpetiform types. Inclusion criteria included all patients who had diagnosis of recurrent aphthous ulcers, and within the age bracket of 1-60 years. Patients presenting with other forms of oral ulcers were excluded from the study. The data

collected was analyzed using IBM SPSS Statistics version 21.0. The data was subjected to descriptive analysis in the form of frequencies, percentages, cross-tabulations, mean and standard deviation. Chi square was used to determine association between variables with P-value set at 0.05.

RESULTS

Out of a total of 304 patients seen during the study period, 22 cases were found to be Recurrent aphthous ulcer (RAU), giving a prevalence of 7.2%. Of the 22 cases with RAU, 12 (54.5%) were males and 10 (45.5%) were females, giving a male to female ratio of 1.2:1. Most of the patients were in the third decade of life (n=9, 41.0%) and the mean age was 34.1 + 13.3 (Table 1). Eleven (50.0%) cases of RAU patients were found to be of the minor subtype with more female predominance (27.4%), while 8(36.4%) were found to be of the herpetiform subtype with equal male and female distribution; and the least (n=3) was the major subtype accounting for 13.6% and was found exclusively in males (Table 2). The relationship between age group and the subtype of recurrent aphthous ulcer was found to be statistically significant (P=0.004), with the 21-30 age group having the highest proportion (n=9, 41.0%) contributed by the minor and herpetiform subtypes (Table 3).

Table 1: Age and Gender Distribution of Recurrent Aphthous Ulcer Patients

Age (yrs.)	Male	Female	Total (%)
0-10	0	0	0(0)
11-20	1	1	2(9.1)
21-30	4	5	9(41.0)
31-40	2	1	3(13.6)
41-50	3	2	5(22.7)
51-60	2	1	3(13.6)
Total (%)	12(54.5%)	10(45.5%)	22(100.0%)

Table 2: Gender Distribution of the subtypes of Recurrent Aphthous Ulcer

Subtype of RAU	Gender (%)		
	Male	Female	Total (%)
Minor	5 (22.7)	6 (27.4)	11(50.0)
Major	3 (13.6)	0 (0.0)	3(13.6)
Herpetiform	4 (18.2)	4 (18.2)	8 (36.4)
Total (%)	12 (54.5)	10 (45.5)	22 (100.0)

Table 3: Relationship between Age Group and Subtypes of Recurrent Aphthous Ulcer

Recurrent Aphthous Ulcer				
Age group	Minor	Major	Herpetiform	Total (%)
10-20	0(0.0)	1(4.5)	1(4.5)	2(9.1)
21-30	6(27.4)	0(0.0)	3(13.6)	9(41.0)
31-40	3(13.6)	0(0.0)	0(0.0)	3(13.6)
41-50	2(9.1)	0(0.0)	3(13.6)	5(22.7)
51-60	0(0.0)	2(9.1)	1(4.5)	3(13.6)
Total (%)	11(50.0)	3 (13.6)	8(36.4)	22(100.0)

P=0.004

DISCUSSION

Epidemiological studies performed over the past few years have shown considerable variation in the prevalence of RAU among different regions throughout the world. The prevalence range among differing populations has been documented as 5-66%, depending on the ethnic and socioeconomic group studied^{9,11}. The present study indicated a prevalence of 7.2%, which is less than previous studies in India, Iraq, China, Libya and Ajman, which had prevalence of 21.7%², 28.2%^{3,6,12}, 29.4%¹³, 30%¹⁴ and 38.6%¹³ respectively, but higher than some reported hospital based studies which had prevalence of 1.9%,¹⁶ and 0.48%¹⁷ recorded among a rural population in India who presented to a dental clinic. This finding is not unexpected, considering the nature and widespread occurrence of the condition which have been recorded to have considerable variation in prevalence worldwide probably due to the genetic factors, socioeconomic level and life-style of individuals of the particular region studied¹⁶. The association between age group of patients and recurrent aphthous ulcer was found to be statistically significant (p=0.004) with majority of recurrent aphthous ulcer found among the third decade of life. This result was in accordance with previous studies done in Nigeria, Libyan, Iran and Iraq which had majority of its respondents having

RAUs within the third decade of life^{2,10,12,14,18}. The peak age of onset of RAU is usually second decade. Studies have shown a general trend of low RAU prevalence in the first decade with an increase in the prevalence of RAU in the second and third decades¹⁸. About 80% of people with aphthous stomatitis first developed the condition before the age of 30¹⁹. The present study reported more males (54.5%) presenting with RAU. This is similar to a previous report done in this center to review the occurrence of oral ulcerative lesions which revealed a higher recurrent aphthous experience among males with the most commonly affected age group being 21-30 years¹⁰. However, this study contradicts the results of other investigators^{2,12,17} that reported female preponderance, with patients in the third and fourth decades of life most commonly affected. In relation to female predisposition to RAU, some authors have suggested that this association is related to hormonal rates. The incidence of RAU is related to the luteal phase of the menstrual cycle and also a decrease in its incidence during pregnancy, thus relating the episodes of RAS to progesterone levels^{3,18}. About half (50.0%) of recurrent aphthous ulcers in the study were of the minor subtype. This gives credence to the fact that minor RAU is the most common type of RAU reported worldwide^{9,10,14}. Although the 50% reported in this study was less than that of a study in

South Kerala, India¹⁷, which had majority of RAU (94%) presenting with minor aphthae and the Libyan study,¹⁴ which had (72%) of its respondents having a history of minor aphthae. It is generally seen in the non-keratinized mucosal surface like labial mucosa. Lesions appear as single or multiple ulcers but can be distinguished from other mucocutaneous diseases, based on their history, location, healthy appearance of adjacent tissues, and the lack of distinguishing systemic features. Minor ulcers often heal within 10 to 14 days without scarring^{20,21}. This present study also showed that the minor subtype was more in females, with all the major subtype occurring exclusively in males, and the herpetiform type of RAU having equal gender distribution. Major RAU lesions are similar in appearance to those of minor RAU but less common; however, they are larger than 10 mm in diameter, deeper, often scar and can last for weeks to months³. Major RAU usually has its onset after puberty and is chronic, persisting for up to 20 or more years.⁹ A study showed that the herpetiform subtype which presents as multiple small clusters of pinpoint lesion each measuring 2 to 3mm in diameter in size, generally have a predisposition for women. These ulcers last for 7 to 10 days²². Herpetiform ulceration is often extremely painful and the lesions recur more frequently than minor or major aphthous ulcers. Recurrence may be so frequent that ulceration is virtually continuous. It generally occurs in a slightly older age group than the other subtypes, and females are affected slightly more frequently than males.^{23,24} RAU remains an incurable ailment that interferes with the lives of otherwise healthy individuals²⁵. There are many treatment options for clinicians to consider, ranging from several topical to systemic medications which are useful in controlling the symptoms of RAU and reducing the frequency of episodes of ulceration.

CONCLUSION

The study revealed an overall prevalence of 7.2% of recurrent aphthous ulcers with higher occurrence among males. Most of the patients were in the third decade of life. The most common subtype of recurrent aphthous ulcer in the study was the minor type.

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