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Original Article

Frequency of oral involvement in patients with pemphigus vulgaris presenting in a tertiary care hospital Quetta

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Abstract

Objective To determine frequency of oral involvement in patients with pemphigus vulgaris presenting in a tertiary care hospital Quetta.

Study Design Cross Sectional.

Setting and study duration This study was conducted in Dermatology department, Bolan Medical College/ Sandeman (P) Hospital Quetta. Approval was taken from the institutional ethical review board. The duration of study was six months from 21st September 2017 to 21st march 2018.

Material and methods A total of 89 patients with clinical diagnosis of pemphigus vulgaris were included in this study. Complete history and examination was taken for blister of skin and mucosal involvement. Biopsy of the blister lesion was sent to institutional laboratory to aid the diagnosis.
Data was analyzed on SPSS version 22. Mean and standard deviation was calculated for age of patients. Male and female ratio was calculated. Frequency and percentage was calculated for oral involvement in patients with Pemphigus Vulgaris. Data was stratified in different age group, gender and duration of symptoms to control effect modifier. Post stratification chi-square test was applied by taking $P \leq 0.05$ as level of significance.

Results A total of 89 patients with clinical diagnosis of pemphigus vulgaris were included in this study. The average age of the patients was 49.85±6.28 years. There were 59(66.29%) male and 30(33.71%) female. Frequency of oral involvement in patients with pemphigus vulgaris was 86.52% (77/89).

Conclusion Our results showed that Pemphigus is a potentially life threatening disease that causes blisters and erosions of the skin and mucous membranes. Frequency of oral involvement in patients with pemphigus vulgaris was 86.52%. For prevention of worst complication early detection and treatment will help. Clinicians should make use of such combination therapy to achieve remission of the disease and to provide comfort to the patient.

Key words
Pemphigus Vulgaris, skin and mucous membranes, oral involvement.

Introduction

Pemphigus Vulgaris (PV) is the most common type of Pemphigus and comprises about 80% of patients with Pemphigus, about 0.8% of all dermatologic patients suffer from pemphigus.[1] The prevalence of pemphigus vulgaris is almost equal in men and women. The mean age of onset is fourth to sixth decades.[1] Pemphigus is a potentially life threatening disease that causes blisters and erosions of the skin and mucous

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membranes.[2] The worldwide prevalence of Pemphigus Vulgaris is reported to be 0.5-3.2/ 100,00.[1,2] In Iran, it is reported as 0.98/100,000.[3] The diagnosis of any patient with a clinical suspicion for pemphigus is best confirmed with a combination of histopathology and laboratory testing, commonly a biopsy of a fresh vesicle or the edge of blister, with adjacent non-blistered skin, should be performed for histopathology.[4] Khan *et al*. reported severe mucocutaneous lesions with ulcers in the oral cavity (82.1%) and on the skin of back (60.71%) and flexures (60.71%) being the most common presenting features.[5] Karagöz G *et al*. reported that buccal mucosa was the most commonly affected site (34.3%) followed by tongue (20%) and lips (11%).[6]

Materials and methods

This Cross sectional was conducted at Department of Dermatology, Bolan Medical College/ Sandeman Provincial Hospital, Quetta. The Study duration was 6 months. The sampling technique used was Nonprobability consecutive sampling. Sample size calculated on the basis of the following;

Frequency of oral involvement in patients with pemphigus vulgaris[5]= 82% confidence level = 95%, absolute precision required = 8%, n= 89 patients.

Patients were selected from the Out-Patient department of dermatology, Sandeman Provincial Hospital, Quetta. An informed consent was obtained from the patient for including them in study and using their data in research. Based on history and examination, patients were evaluated for inclusion and exclusion criteria. Complete history and examination was taken for blister of skin and mucosal involvement. Biopsy of the blister lesion was sent to institutional laboratory to aid the diagnosis. During clinical examination, privacy and comfort was taken care of. In order to control bias, the exclusion criteria was followed by principal investigator strictly.

Inclusion criteria

- Patients of both sexes (because pemphigus vulgaris occurs equally in both sexes).
- Patients with age group 40-60 (it occurs commonly in this age group).
- Clinically +/- histologically diagnosed cases of Pemphigus Vulgaris.

Exclusion criteria Patient with blistering disease other than pemphigus i.e. pemphigoid, epidermolysis bullosa acquisita, lichen planus pemphigoides, Linear IgA disease were excluded.

Results

A total of 89 patients with clinical diagnosis of Pemphigus Vulgaris were included in this study. Age distribution of the patients is shown in **Figure 1**. The average age and duration of symptoms of the patients was 49.85±6.28 years and 4.40±1.55 months **(Table 1)**. There were 59 (66.29%) male and 30 (33.71%) female as shown in **Figure 2**.

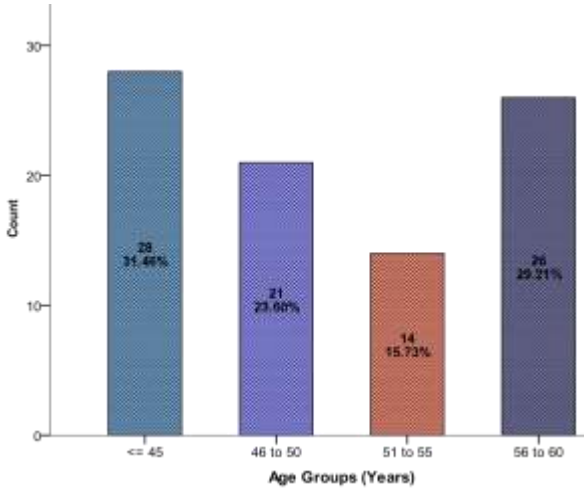

Figure 1 Age distribution of the patients (n=89).

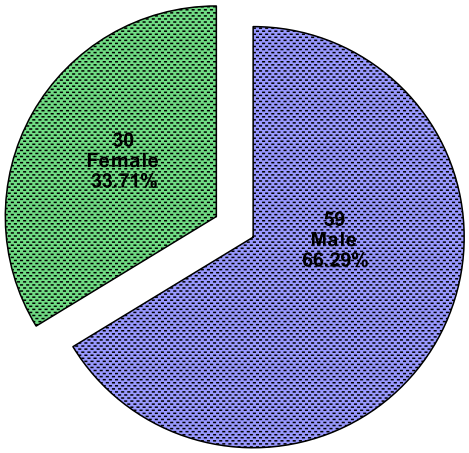

Figure 2 Gender distribution of the patients (n=89).

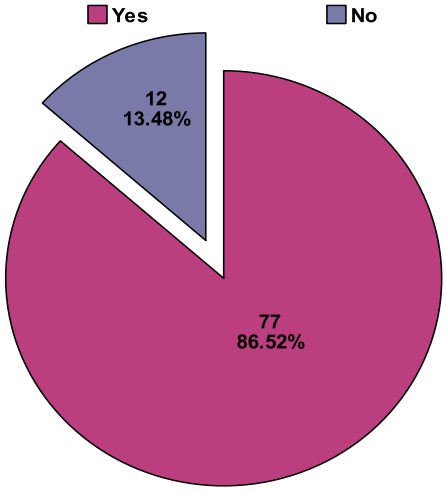

Figure 3 Frequency of oral involvement in patients with pemphigus vulgaris (n=89).

Table 1 Descriptive statistics of age and duration of symptoms

Statistics		*Age (Years)*	*Duration of Symptoms (Months)*
Mean		49.85	4.40
Std. Deviation		6.28	1.55
95% Confidence Interval for Mean	Lower Bound	48.53	4.08
	Upper Bound	51.18	4.73
Median		48	4
Inter quartile Range		12	3

Table 2 Frequency of oral involvement in patients with pemphigus vulgaris by age groups (n=89)

Age Groups (Years)	*Oral Involvement In Patients With Pemphigus Vulgaris*		*Total*	*Chi-Square*	*P-Value*
	Yes	*No*			
≤ 45 Years	23(82.1%)	5(17.9%)	28	2.247	0.523
46 to 50 Years	17(81%)	4(19%)	21		
51 to 55 Years	13(92.9%)	1(7.1%)	14		
56 to 60 Years	24(92.3%)	2(7.7%)	26		

Table 3 Frequency of oral involvement in patients with pemphigus vulgaris by sex (n=89)

Gender	*Oral Involvement In Patients With Pemphigus Vulgaris*		*Total*	*Chi-Square*	*P-Value*
	Yes	*No*			
Male	50(84.7%)	9(15.3%)	**59**	0.471	0.493
Female	27(90%)	3(10%)	**30**		

Table 4 Frequency of oral involvement in patients with pemphigus vulgaris by duration of symptoms (n=89)

Duration of Symptoms	*Oral Involvement In Patients With Pemphigus Vulgaris*		*Total*	*Chi-Square*	*P-Value*
	Yes	*No*			
≤ 5 Months	60(90.9%)	6(9.1%)	66	4.22	0.040
>5 Months	17(73.9%)	6(26.1%)	23		

Frequency of oral involvement in patients with pemphigus vulgaris was 86.52% (77/89) as presented in **Figure 3**. Rate of oral involvement in patients with pemphigus vulgaris was not significant among age groups, gender as shown in **Table 2 and 3** respectively while it was statistically significant with duration of symptoms as shown in **Table 4**.

Discussion

Pemphigus vulgaris presents with oral lesions in 50-70% of patients.[7] Oral lesions precede skin lesions by months or be the only manifestations of the disease. Intact bullae are rare in mouth. More commonly patients have ill defined, irregularly shaped buccal or palatal erosions which are slow to heal. The erosions extend peripherally with shedding of the epithelium. Other mucosal surfaces may be involved including the conjunctiva, nasal mucosa, pharynx, oesophagus, urethra, vulva and cervix. Oral lesions of pemphigus vulgaris need to be differentiated from other dermatological diseases with possible manifestations on oral mucosa including dermatitis herpetiformis, pemphigus erythematosus, benign chronic familial pemphigus, systemic lupus erythematosus, acrodermatitis enteropathica, crohns disease, deficiencies of folic acid, vitamin B12 etc.[8]

The average annual incidence of pemphigus ranges from 0.08 cases/ 100000 individuals in Finland, 0.1-0.5 in USA 0.17 in France, 0.44 in Macedonia, 0 .47 in Bulgaria, 0.93 in Greece, 1.62 in Israel, 0.67 in Shiraz, and 1.6 in Tehran.[9] Among the 91 patients seen, pemphigus vulgaris was the most predominant type of pemphigus seen (83, 91.2%) followed by pemphigus foliaceus in 6 (6.5%) patients and linear IgA pemphigus in 2 (2.1%) patient. This corroborates well with other studies. Higher prevalence of pemphigus vulgaris compared with other variants is reported from Shiraz city, Turkey, Saudi Arabia, Bulgaria, France, Greece, India, Bangladesh, Kuwait, Italy and Gilan province.[9] On the other hand, pemphigus erythematosus is more prevalent in Finland and pemphigus foliaceus is the dominant variant in Brazil, South Africa, Mali, Tunisia.[9]

In this study the average age and duration of symptoms of the patients was 49.85±6.28 years and 4.40±1.55 months. Previous studies in Saudi Arabia (43.1 year), Mali (46.7 year) and Turkey (43 year) show similar results. In a study done in Pakistan the average age of onset 33.8 which is lower than the results of the present study and reference books. In Africa the mean age of onset was 41.17±15.07 which is significantly lower with unknown reasons. Although pemphigus vulgaris mainly affected middle-aged people, it was reported in 3-year old and 89-year-old patients in some references.[10] Youngest and eldest patients in a study were of 11 and 80 years. Maximum number of cases were observed between 30-60 years (51 %) surprisingly 14 (16.7%) of patients were above 60 years of age.[11]

In present study there were 66.29% male and 33.71% female. In Saudi Arabia, a greater number of men were affected by this disorder with male to female ratio of 2.2:1. In northern America, Finland, Malaysia, England, France, Bulgaria and south eastern America morbidity rate was the same in the case of both men and women [98]. Male to female ratio of 1:1.5 was higher than the reports from Tunisia (1:4.1), Mali (1:4), Italy (1:2.2 Greece (1:2.2) and similar to other studies in India (1.16), Mediterranean beach of Turkey (1.35), Tehran (1:1.5), Bangladesh (1.3), and Shiraz city (1.22).[11] In total, we observed female dominance in majority of the literature.

In present study frequency of oral involvement in patients with pemphigus vulgaris was 86.52%. These results are compatible with other studies. In Anand *et al*. study[10] oral mucous membrane was affected in 70 (84%) cases. In 65 (78%) patients oral as well as skin involvement was noted. In the study of Tehran (capital of Iran), skin and mucous membrane involvement was present at a same time in 70% of patients.[13] In the study of Isfahan (center of Iran) mucous

membrane involvement was the first sign in 74% of patients.[10]

In the study of Rasht (north of Iran), the beginning of the disease was from mouth in 63% of patients and in 72.4% of the patients skin and mucous membrane were involved. The mean interval between the onset of mucosal and dermal involvement was less than 5 months in around half of our cases. This interval was 6-9 months in other studies in India and 5-12 months in Croatia.[14]

Conclusion

Pemphigus is a potentially life threatening disease that causes blisters and erosions of the skin and mucous membranes. Frequency of oral involvement in patients with pemphigus vulgaris was 86.52%. For prevention of worst complication early detection and treatment will help. Clinicians should make use of such combination therapy to achieve remission of the disease and to provide comfort to the patient.

References

1. Uddin JM, Islam AM, Ali ME, Wahab MA, Khondker L, khan Md S I. Safety of parenteral dexamethasone vs. oral prednisolone in the treatment of pemphigus vulgaris. *J Pak Assoc Dermatol*. 2013;**23(2)**:163-7.
2. Hasan S, IK Nabeel, AS Osama, B Vasundhara, S Himangi *et al*. Pemphigus vulgaris: An Insight on conventional and emerging treatment modalities. *Int Res J Pharm*.2013;**4(3)**: 8-12.
3. Noorbala MT, Kafaie P, Poursina N, Ghavami M, Sadoughi S. Pemphigus in central part of Iran. *J Pak Assoc Dermatol*. 2012;**22(3)**:197-9.
4. Hertl M, Jedlickova H, Karpati S, Marinovic B, Uzun S, *et al*. Pemphigus S2 Guideline for diagnosis and treatment--guided by the European Dermatology Forum (EDF) in cooperation with the European Academy of Dermatology and Venereology (EADV). *J Eur Acad Dermatol Venereol*. 2015; **29(3)**: 405-14.
5. Khan S W, Iftikhar N, Ahmed T A, Bashir M . HLA-DR Alleles in Pakistani patients of pemphigus vulgaris. *J Coll Physicians Surg Pak*. 2015;**25(4)**:233-6.
6. Karagöz G, Bektaş-Kayhan K, Ünür M. Evaluation of pemphigus cases involving oral mucosa. *Oral Health Dent Manag* 2014; **13(3)**:605-9.
7. Stanley JR. Pemphigus. In Irwin Freedberg, ArhturEisen, Klaus Wolff editors. Fitzpatricks Dermatology in General Medicine. 5th edition New York. McGraw Hill. 60: 654-661.
8. Martinez AB, Corcuora MM, Gomez GE. Oral manifestations of pemphigus vulgaris. *J Clin ExpDermatol Res*. 2004; **1**: 1-5.
9. Yazdanfar A. Epidemiology of pemphigus in Hamedan (West of Iran). A 10 year retrospective study .*Int J of Pharma Biomed Res* 2010; **1(4)**: 157-60.
10. Ali A, Aleraza Y. Pemphigus vulgaris in Iran epidemiology and profile. *Skinmed* 2006;**5**:69-71.
11. Anand AJ, Vaibhav T. Oral involvement in Pemphigus Vulgaris: An Epidemiological Profile. *NJIRM*. 2015; **6(5)**:50-53.
12. Jari Z, Meibodi NT, Nahidi Y. Epidemiology of Pemphigus in North East Iran. *Indian J Dermatol* 2007; **52**:188-91.
13. Davatchi C, Valikhani C, Esmail M. Pemphigus. Analysis of 1209 cases. *Int J Dermatol*. 2005;**44**:470-76.
14. Karagoz G, Bektas K, Umar M. Evaluation of Pemphigus cases involving oral mucosa. *Oral Health Dent Manag*. 2014:**13**:3605-608.