

Frequency of Epulis Fissuratum in Denture Wearers Visiting Punjab Dental Hospital, Lahore

Frequency of
Epulis
Fissuratum in
Denture Wearers

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ABSTRACT

Objective: The objective of this study was to evaluate the frequency of Epulis Fissuratum in denture wearers visiting Punjab Dental Hospital, Lahore.

Study Design: Experimental study

Place and Duration of Study: This study was conducted at the Punjab Dental Hospital, Lahore from August 2020 to January 2021.

Materials and Methods: After meeting the inclusion criteria 100 patients were enrolled. Informed consent and demographic information was taken. After this, oral cavity examination was done to determine the presence or absence of Epulis Fissuratum as per-operational definition by the researcher himself.

Results: The mean age of the patients was 63.60±8.64 years. There were 37(37%) female patients. In this study complete denture wearer patients were 80(80%), there were 38(38%) patients who were smokers. There were 92(92%) patients with good oral hygiene. The mean duration of denture wearing of the patients was 6.99±4.014 years with minimum and maximum duration of 2 & 23 years respectively. The Epulis Fissuratum was noted in 18(18%) patients.

Conclusion: This study concluded that the frequency of Epulis Fissuratum was 18% in denture wearers visiting Punjab Dental Hospital, Lahore.

Key Words: Epulis Fissuratum, Denture Wearers

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INTRODUCTION

Epulis Fissuratum is an oral mucosal hyperplastic condition caused by low-grade chronic trauma from ill-fitting dentures.¹ It is an oral mucosal lesion which occurs in reaction to excessive mechanical pressure.² The denture borders become overextended due to the residual alveolar ridge resorption, causing chronic irritation of the oral mucosa in the sulcus area.

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On examination, a distinctive fissure surrounded by hyperplastic soft tissue is visible.^{3,4} It is chronic in nature and the discomfort is mostly not prominent, therefore the patient may not feel any discomfort and continue to wear the ill-fitting denture. This may lead to development of hyperplastic lesions of large size. However, when ulceration occurs+ the lesion may be associated with pain and discomfort.⁵ Denture related hyperplasia is more commonly seen in older people than in younger people because the tissue reaction to local irritant is higher in older individuals.^{6,7}

A study conducted in non-randomized groups of population in Saudi Arabia Epulis Fissuratum among denture wearers was found 4.21%–10%.^{4, 8, 9} A study conducted in Indian population, Epulis Fissuratum was found in 30.0%.- 41.6% denture wearers.¹⁰⁻¹²

In another study conducted in Iranian population, Epulis Fissuratum was observed in 16.4% denture wearers.¹³ In a study conducted in south America, Epulis Fissuratum was found 4.3%.¹⁴

As there is variation in frequency of Epulis Fissuratum in different populations in previously described studies, so there is a need to evaluate the frequency of Epulis Fissuratum in denture wearers in local population. As Punjab dental hospital is a tertiary care hospital where patients come from all over the Punjab, the sample will

be representative. This study will provide us the local data of the problem which will help us to increase public awareness to improve denture hygiene and prevent denture related hyperplasia.

MATERIALS AND METHODS

100 patients visiting the Department of Prosthodontics, Punjab Dental Hospital, Lahore, fulfilling the Inclusion criteria were selected for this descriptive cross sectional survey. Approval from ethical review committee was taken before conducting the study. Informed consent was taken from each case for inclusion in study. After this, oral cavity examination was done in each case and presence or absence of Epulis Fissuratum was noted as per-operational definition by the researcher himself. All these data (age, gender, duration of denture wearer, denture wearer (complete/partial), smoking (yes/no), denture hygiene (yes/no), oral hygiene (yes/no) and Epulis Fissuratum (yes/no)) was recorded on a predesigned proforma.

Data Analysis: Statistical analysis was done with SPSS version 20.0. Age of the patient, and duration of denture was presented as mean and standard deviation. Gender, denture wearer (complete/partial), smoking (yes/no), denture hygiene (yes/no), oral hygiene (yes/no) and Epulis Fissuratum (yes/no) was presented as frequency and percentage. Stratification was done for age, gender, duration of denture, denture wearer (complete/partial), smoking (yes/no), denture hygiene (yes/no) and oral hygiene (yes/no). Post-stratification Chi square was applied to see their effects on the denture related hyperplasia and the p value ≤ 0.05 was considered as significant.

RESULTS

In the present study total 100 patients were included and the mean age was 63.60 ± 8.64 years. Moreover, the minimum and maximum ages of 50 & 70 years respectively. Among 100 patients 37(37%) patients were females and 63(63%) patients were male. Fig 1 The mean duration of denture of the patients was 6.99 ± 4.014 years with minimum and maximum duration of 2 & 23 years respectively. In this study complete denture wearer patients were 80(80%) and partial denture wearer patients were 20(20%). Fig 2 Out of 100 patients the oral hygiene was found in 92(92%) patients. In our study there were 38(38%) patients who were smokers. Table 1 According to this study denture related hyperplasia (Epulis Fissuratum) was noted in 18(18%) patients. Fig 3 The study results showed that among patients having age between 50-60 years the epulis fissuratum was noted in 1(2.2%) patients and in patients having age >60 years the epulis fissuratum was noted in 17(31.5%) patients. The difference was significant statistically i.e. p-value= <0.001 . Table 2

Among male patients the epulis fissuratum was noted in 14(22.2%) patients and in female patients the epulis fissuratum was noted in 4(10.8%) patients. This difference was statistically insignificant.

Table No.1: Frequency distribution of smoking

Smoking	Frequency		Percent
	Yes	38	38.0
	No	62	62.0
Total	100	100.0	

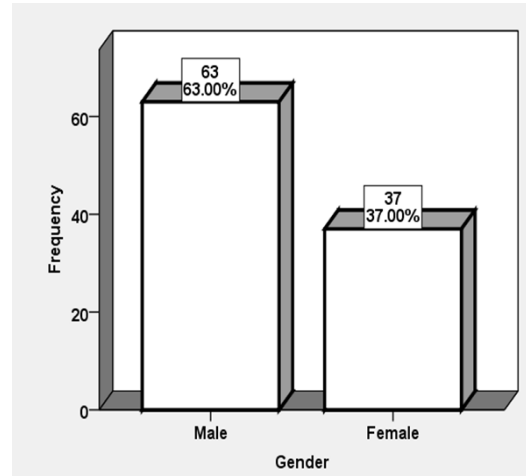


Figure No.1: Frequency distribution of gender

Table No.2: Comparison of Epulis Fissuratum between age groups

	Age (years)	Epulis Fissuratum		Total	p-value
		Yes	No		
	≤ 60	1 2.2%	45 97.8%	46 100.0%	<0.001
	>60	17 31.5%	37 68.5%	54 100.0%	
Total		18	82	100	

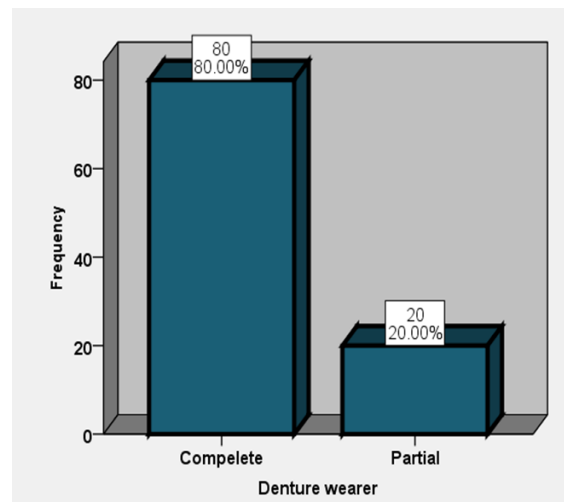


Figure No.2: Frequency distribution of denture wearer

I.e. p-value=0.152. Table 3The results of study revealed that among patients having duration of denture ≤ 10 years the epulis fissuratum was noted in 11(12.4%) patients and in patients having duration of denture >10 years the epulis fissuratum was noted in 7(63.6%) patients. This difference was significant statistically i.e. p-value=<0.001. Table 4Among complete denture wearer patients the epulis fissuratum was noted in 18(22.2%) patients and in partial denture wearer patients the epulis fissuratum was noted in 0(0.0%) patients. This difference was significant statistically i.e. p-value=0.020. Among patients with good oral hygiene the epulis fissuratum was noted in 14(15.2%) patients and in patients poor oral hygiene the epulis fissuratum was noted in 4(50%) patients. The difference was significant statistically. I.e. p-value=0.033. In smoker patients the epulis fissuratum was noted in 10(26.3%) patients and in non-smoker patients the epulis fissuratum was noted in 8(12.9%) patients. This difference was insignificant statistically. I.e. p-value=0.090. Table 5.

Denture Related Hyperplasia

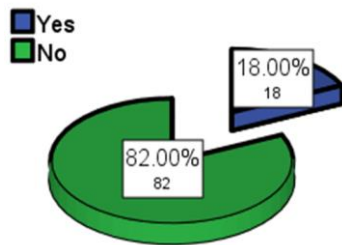


Figure No.3: Frequency distribution of denture related hyperplasia (Epulis Fissuratum)

Table No.3: Comparison of epulis fissuratum between genders

		Epulis Fissuratum		Total	p-value
		Yes	No		
Gender	Male	14	49	63	0.152
		22.2%	77.8%	100.0%	
Female	4	33	37		
		10.8%	89.2%	100.0%	
Total		18	82	100	
		18.0%	82.0%	100.0%	

Table No.4: Comparison of epulis fissuratum with duration of denture

		Epulis Fissuratum		Total	p-value
		Yes	No		
Duration of Denture	≤10	11	78	89	<0.001
		12.4%	87.6%	100.0%	
>10	7	4	11		
		63.6%	36.4%	100.0%	
Total		18	82	100	
		18.0%	82.0%	100.0%	

Table No.5: Comparison of epulis fissuratum with smoking

		Epulis Fissuratum		Total	p-value
		Yes	No		
Smoking	Yes	10	28	38	0.090
		26.3%	73.7%	100.0%	
No	8	54	62		
		12.9%	87.1%	100.0%	
Total		18	82	100	
		18.0%	82.0%	100.0%	

DISCUSSION

Epulis fissuratum is a hyperplasia of mucosa caused by chronic low-grade trauma from a denture flange. Epulis fissuratum is similar to skin acanthoma fissuratum. Typically, epulis fissuratum patients have hyperplastic mucosal folds that are surrounded by border of the denture flange. The denture's flange boundary usually fits into a groove between the folds. The lesions are usually found on the denture's facial aspect. It is unusual to see this lesion on the lingual surface. They are more commonly found in the anterior part of the jaws.¹⁵

In this study the complete denture wearer patients were 80(80%), there were 38(38%) patients were smokers and the denture related hyperplasia (Epulis Fissuratum) was noted in 18(18%) patients.

A study conducted in Indian population, Epulis Fissuratum was found in 30.0%- 41.6% denture wearers.¹⁰⁻¹² In another conducted in Iranian population, Epulis Fissuratum was found in 16.4% denture wearers.¹³ In a study conducted in south America, Epulis Fissuratum was found 4.3%.¹⁴

Suhayla Mubarak et al⁸ carried out study and demonstrated in their study results that fibrous hyperplasia induced by denture was the frequently detected lesion (41.9%). In this study author found a significant correlation (P = 0.004) between the type of denture and oral lesions.

In study conducted by Parsa Atashrazm et al, they examined total 674 patients; out of that complete denture wearers were 201patients. In study the researcher observed the prevalence of epulis fissuratum 16.4 %. Moreover, the researcher observed significant relationship among the prevalence of epulis fissuratum with gender, denture quality and denture wearing habit (p < 0.05).¹³

Epulis fissuratum has been observed in 5 to 26% of denture wearers.⁵⁸⁻⁶⁰¹⁶⁻¹⁸ It is less frequent in men than women and is typically found in the mucolabial or mucobuccal folds.^{19,16,20} Dweiri et al. (2012) found that the prevalence of fibrous hyperplasia induced by the dentures among females (23.1%) was only slightly more than among males (18.6%).²¹The mean age of the patients was 63.60±8.64 years, 37(37%) patients were females and 63(63%) patients were male. Complete denture wearer patients were 80(80%).

A study by Zaid Al Zoubi et al^{63,22} showed lower prevalence of Epulis fissuratum. The author documented in their study that prevalence of Fibrous Hyperplasia caused by dentures was 8% among denture wearers, most common in females than in males, and that the majority of lesions were observed in the age group of 34-60, more frequently found in the anterior area rather than the posterior area, and more common in the lower jaw rather than the upper jaw.

In another study the prevalence of oral mucosal lesions in different age groups the Denture-induced hyperplasia was found in 6.3 percent of subjects aged 55–64 and 11.5 percent of subjects aged greater than 65.²³

In another study of mucosal lesions in oral cavity in the elderly,²⁴ 52 percent of complete and removable partial denture wearers had proliferative or ulcerative lesions. The fact that a total prosthesis covers more of the oral mucosa than a partial denture prosthesis, it may be a contributing factor to this increase in full denture wearers. The irritant effect of denture base materials on these patients' tissue changes should not be underestimated.²⁵ The relationship between denture related lesions and poor oral hygiene is complex, and not well established. According to the literature, defective dentures provide more opportunities for food to become lodged and limit the natural cleaning action of the tongue, cheeks, and lips.^{20,24,26} In future further studies should be done to evaluate the findings of our study with larger sample size.

CONCLUSION

This study concluded that the frequency of Epulis Fissuratum was 18% in denture wearers visiting Punjab Dental Hospital, Lahore. Now in future, on the basis of findings of this study, we can help to increase the public awareness that regular dental care and improved denture hygiene can prevent denture related hyperplasia.

Author's Contribution:

Concept & Design of Study:	Gulzaib
Drafting:	Muhammad Waseem Ullah Khan, Momina Akram
Data Analysis:	Hamna Khawaja, Hafiz Nasir Mahmood, Hafiz Muhammad Jawaad Manzoor
Revisiting Critically:	Gulzaib, Muhammad Waseem Ullah Khan
Final Approval of version:	Gulzaib

Conflict of Interest: The study has no conflict of interest to declare by any author.

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