

A Clinical Survey to Assess Type and Severity of Tooth Wear in Geriatric Patients

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Abstract: Tooth wear is commonly found in every dentition. problems associated with tooth wear in elderly is increasing. A clinical survey was conducted to assess the type and severity of tooth wear in Geriatric patients. Out of 148 patients all patients have tooth wear, 129 patients had attrition, 14 patients had abrasion, 5 patients had erosion and 82 patients had combination of tooth wear. 62 patients had Grade I, 3 patients had Grade IV.

Keywords: Tooth wear, Geriatric patient, Attrition, Abrasion, Erosion, Tooth surface loss.

1. INTRODUCTION

There has been an increasing interest in tooth wear in dental literature. Tooth wear is commonly found in every dentition and may have physiologic or pathologic causes¹⁻³. Although some degree of tooth wear is accepted as a normal part of the ageing process problems associated with tooth wear have increasingly been attracting the attention of the dental profession in the last few decades⁴. With improved life expectancy and control of dental caries and periodontal disease, it is likely that retention of natural teeth into old age will lead to a higher prevalence of worn dentition⁵. Tooth wear has been defined as loss of tooth substance resulting from abrasion, attrition and erosion acting singly or concurrently^{6,7}. Tooth wear is multi factorial process, which make it difficult to identify a single cause. This study was designed with questionnaire to assess the type of tooth wear and also to assess the severity of tooth wear. Indices grade tooth wear by recording surfaces of teeth or the whole mouth^{8,9}.

Smith and Knight Indices was used to assess the severity of tooth wear because it is easy to use and is not based on etiology⁷. This study was designed on geriatric patients who reported to

our institution by collecting data after proper clinical examination and diagnosis.

2. MATERIALS AND METHODS

The patients included in this survey were the dentate and partially dentate patients who visited geriatric department of SDM College of dental sciences. A total of 148 patients were surveyed out of which 128 Male 40 Female with mean average age of 60-80 yrs. The history was recorded with a questionnaire, which included patients present illness, past history medical history and medications which includes vitamin, iron preparation, dental history reduced salivary flow, para functional habits clenching grinding. Dietary habits soft drink consumption, wine, pickled food, pts occupation, period of stress, weight loss, oral hygiene techniques past present use of abrasive tooth cleaning materials and techniques. Depending on the feedback for all these questions were to categorize the patients into one of the following etiological categories. Attrition, Abrasion, erosion, combination of tooth wear and clinical examination was done to assess the type of tooth wear and the extent of tooth wear was assessed using smith and knight index. The number of patients with tooth wear was tabulated.

3. RESULTS

A total of 148 patients were surveyed out of which 98 male 50 female (Table 1). All patients exhibited some amount of tooth wear. 129 patients had attrition, 14 patients had abrasion, 05 patients erosion, 82 patients had combination of tooth wear (Table 2). The severity of tooth wear was ranging from Grade I to Grade IV. 62 patients had Grade I tooth wear, 38 patients had Grade II, 28 patients had Grade III, 3 Patients had Grade IV.

Table1. Shows distribution of tooth wear by sex and age in geriatric patients

Total no of patients	Age	No of Male patients	No of female	Tooth wear
148	60 – 80	98	50	148

Table2. Shows Type of tooth wear

Type of tooth wear	Total no	Localized	generalized
Attrition	129	24	105
Abrasion only	14	9	5
Erosion only	05		
Combination of attrition and abrasion	82	70	12

Table3. Shows tooth wear index according to smith and knight.

Grade according to score by S & K	No of patients total 148
Score 0	0
Grade I	62
Grade II	38
Grade III	27
Grade IV	03

4. DISCUSSION

There is a potential threat to functional dentition due to extensive tooth wear especially from attrition and is becoming a subject of interest in prosthodontic literature both from preventive and restorative point of view¹⁰.

Prolonged tooth maintenance by a more aged population considerably increases the probability of dentist having to treat patients with high levels of tooth wear. The mechanisms by which teeth wear include, attrition, abrasion and Erosion¹¹. In a United Kingdom study it was reported that the mean proportion of teeth with some moderate wear increased over 65 years of age and 2 percent of teeth exhibited severe wear¹². In our study our out of 148 patients examined all the patients had some amount of

tooth wear ranging from mild to moderate. 129 patients had attrition out of which 24 patients had localized wear. 105 patients had generalized attrition. 14 patients had only Abrasion in which 9 patients had localized abrasion and 5 patients had generalized abrasion. Out of 148 patients only 5 patients had erosion. The mechanism seldom operate singly and the overlap of 2 or more of tooth often at different times adds to the complexity of the phenomenon of wear¹³. In present study out of 148 patients 82 patients had overlap of tooth wear of attrition and abrasion out of which 70 patients had localized attrition and abrasion 12 patients had generalised attrition and abrasion. A population survey in northern Swedish found 36 percent of wear in 65 yr old patients¹⁴. Although a combination of factors is usually involved in addition to the identification of etiological and modifying/ aggravating factor and before any definitive reconstructive procedures are carried out the rate of wear should be assessed¹³⁻¹⁵ [Johansson]. In present study smith and knight index was used to assess the severity of tooth wear because it is easy to use and is based on etiology [smith and knight]¹⁶. Out of 148 patients examined 62 patients showed grade I tooth wear and 38 patients had grade II, 27 patients had grade III tooth wear and 3 patients had grade 4 tooth wear. In a large German epidemiological survey mean tooth wear score they found was 1.4 percent in 70-79 yr old.¹⁷ Increased levels of wear in the older groups are reported consistently^{18,19,20}. In our study it was found that all the patients examined had some amount of tooth wear. With the growing number of elderly people retaining more of their teeth into old age and the increase in tooth wear with age. So there will be substantial problem is likely to become in future. It is very necessary to know the epidemiological survey of tooth wear in geriatric patients among Indian population.

5. CONCLUSION

Tooth wear is becoming more evident today with an aging population, who are retaining their natural teeth for significantly longer. Tooth wear is multifactorial process, so it is necessary to identify the tooth wear and also assess the severity and progression of tooth wear in elderly so as to plan reconstructive procedure. This can bring about timely prevention and improve the life span of teeth.

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