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Original Research Article.

Assessment of Patients Undergoing Therapeutic Dental Extractions for Orthodontic Purposes

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ABSTRACT

Background: Since the early days of orthodontics the need for tooth extractions in certain orthodontic situations has been discussed. Hence; under the light of above mentioned data, the present study was undertaken for assessing the patients undergoing therapeutic dental extractions for orthodontic purposes.

Materials & Methods: A total of 85 patients who underwent orthodontic treatment were included in the present study. Complete demographic and clinical details of all the patients were obtained. Clinical examination of all the patients was carried out. Classification of the patients was also done on the basis of type of angle's classification. Frequency of dental extraction was recorded. All the results were recorded in Microsoft excel sheet and was analysed by SPSS software.

Results: The overall frequency of therapeutic dental extraction was 49.41 percent. Among these 42 patients, angle's class I, class II and class III malocclusion was present in 12, 21 and 9 patients respectively. Among these 42 patients, 28 were females while the remaining 14 were males.

Conclusion: Therapeutic dental extractions are a common finding among patients undergoing orthodontic treatment with angle class II malocclusion being the most common reason for dental extractions.

Key words: Dental Extraction, Orthodontic Treatment.

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INTRODUCTION

Since the early days of orthodontics the need for tooth extractions in certain orthodontic situations has been discussed. In the early twentieth century, Angle favored non-extraction orthodontic treatment based on the concept of the occlusion line. He believed it possible to correctly position all of the 32 teeth in the dental arches and, as a result, the adjacent tissues (tegument, bone and muscle) would adapt to this new position. Grounded in this belief, he taught his students and treated numerous cases.[1-3]

Concerns regarding esthetic facial aging can be added to the list of factors that strongly influence orthodontic planning nowadays, although there are some studies which affirm that extraction treatment does not adversely impact soft tissue profile changes over time and does not change patient's facial height. Moreover, the improvement of bonding in Orthodontics and the introduction of various techniques, such as interproximal reduction, thermoplastic aligners, functional appliances, self-ligated brackets and temporary anchorage devices, also influence orthodontic planning.[4-7] Hence; under the light of above mentioned data, the present study was undertaken for assessing patients undergoing therapeutic dental extractions for orthodontic purposes.

MATERIALS & METHODS

The present study was undertaken for assessing the patients undergoing therapeutic dental extractions for orthodontic purposes. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 85 patients who underwent orthodontic treatment were included in the present study. Complete demographic and clinical details of all the patients were obtained. Clinical examination of all the patients was carried out. Classification of the patients was also done on the basis of type of angle's classification.[8] Frequency of dental extraction was recorded. All the results were recorded in Microsoft excel sheet and was analysed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

In the present study, a total of 85 patients were enrolled. Among these 85 patients 42 were males and 43 were females. Dental extraction procedures were carried out in 42 patients. The overall frequency of therapeutic dental extraction was 49.41 percent.

Among these 42 patients, angle's class I, class II and class III malocclusion was present in 12, 21 and 9 patients respectively. Among these 42 patients, 28 were females while the remaining 14 were males.

Graph 1: Frequency of therapeutic dental extractions

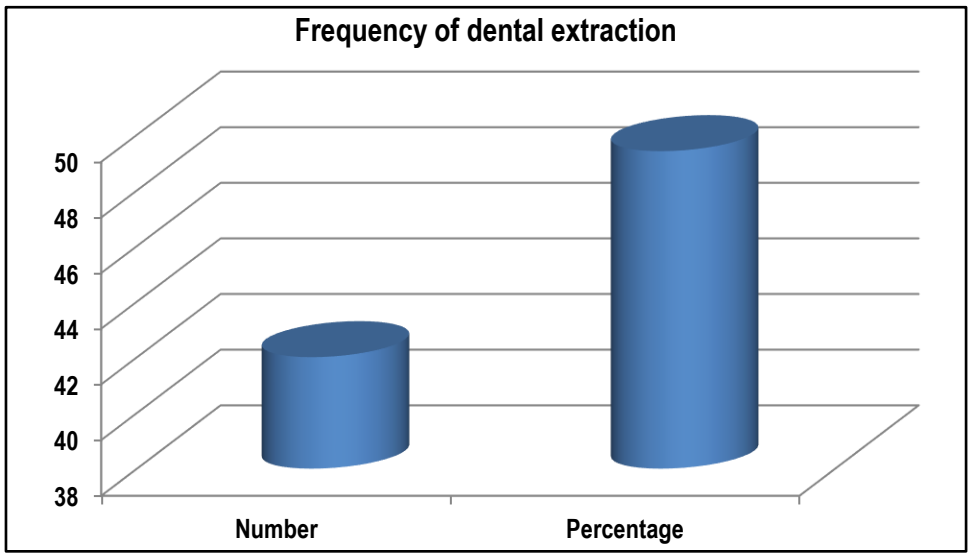
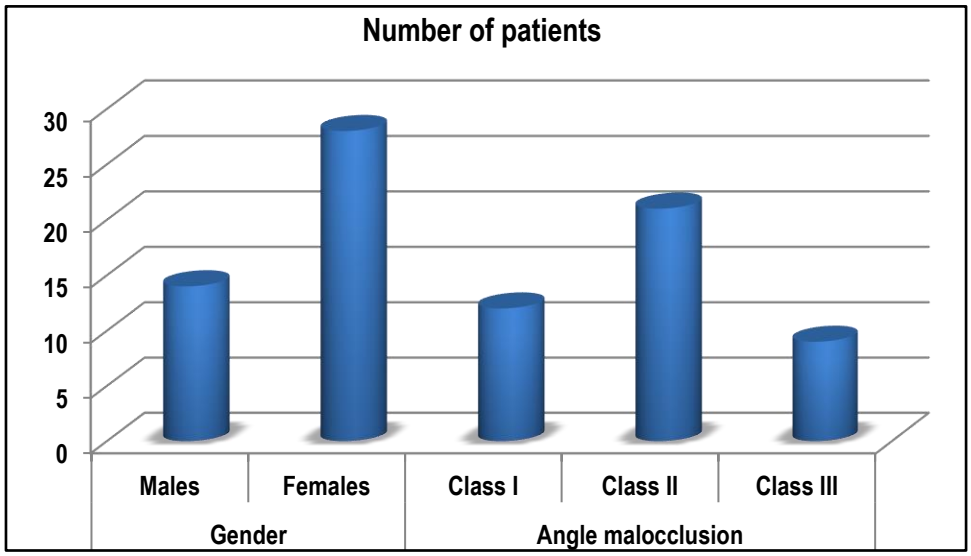


Table 1: Descriptive results

Parameter		Number of patients
Gender	**Males**	14
	Females	28
Angle malocclusion	**Class I**	12
	Class II	21
	Class III	9

Graph 2: Descriptive results



DISCUSSION

Extractions for orthodontic treatment had changing tendencies over time. Extraction of teeth to gain space for the orthodontic movement was quite common in the late 19th century. With the advent of angle's era in early 20th century, nonextraction treatment became quite popular. Angle opined that extraction destroyed the possibility of ideal occlusion and esthetics. Almost all the cases were treated without extraction as angle advocated that modern orthodontic treatment done correctly would allow function to stabilize the teeth in their new positions. However, nonextraction theory was proved wrong with more relapse cases. Extractions were reintroduced to orthodontics in 1930's and with the advent of Begg's technique reached its peak in 1960's.[8- 11] Hence; under the light of above mentioned data, the present study was undertaken for assessing the patients undergoing therapeutic dental extractions for orthodontic purposes.

In the present study, a total of 85 patients were enrolled. Among these 85 patients 42 were males and 43 were females. Dental

extraction procedures were carried out in 42 patients. The overall frequency of therapeutic dental extraction was 49.41 percent. Rai AK et al tested a novel method utilizing localized inflammatory response in easing orthodontic extractions. 40 individuals were included in this split mouth prospective clinical study. In all these subjects, teeth destined for extraction were bonded and engaged with arch wire on one side of the arch and the other side was used as control. Ease of extraction was compared and assessed by the dentist and the patients using four point Likert scale. The values obtained were used for statistical analysis. Both the dentist and the patents perceived the extraction on the test side being easy, with less discomfort postoperatively with the difference between the test and the control being statistically significant. Localized inflammatory response in the periodontium of teeth destined for extraction can be used to facilitate their removal, thereby easing out the procedure both for the dentist and the patient.[11]

In the present study, among these 42 patients, angle's class I, class II and class III malocclusion was present in 12, 21 and 9 patients respectively. Among these 42 patients, 28 were females while the remaining 14 were males. Thirunavukkarasu VN et al evaluated the extraction protocols in patients who had previously undergone orthodontic treatment and also who had reported for continuing orthodontic treatment from other clinics. One hundred thirty eight patients who registered for orthodontic treatment at the Faculty of Dentistry were divided into 10 extraction protocols based on the Orthodontic treatment protocol given by Janson et al. and were evaluated for statistical significance. The descriptive statistics of the study revealed a total of 40 (29%) patients in protocol 1, 43 (31.2%) in protocol 2, 18 (13%) in protocol 3, 16 (11.6%) in protocol 5, and 12 (8.7%) in Type 3 category of protocol 9. The Type 3 category in protocol 9 was statistically significant compared to other studies. Midline shift and collapse of the arch form were noticed in these individuals. Extraction of permanent teeth such as canine and lateral incisors without rational reasons could have devastating consequences on the entire occlusion. The percentage of cases wherein extraction of permanent teeth in the crowded region was adopted as a treatment option instead of orthodontic treatment is still prevalent in dental practice.[12]

When orthodontists are faced with a marked negative tooth-arch discrepancy (TAD) in the lower arch, they will be hard pressed to treat the patient by performing tooth extractions. Small negative discrepancies can, in most cases, be treated without extractions. Thus, space can be obtained by using leeway space (if still possible), stripping, correction of pronounced mesial tipping of lower posterior teeth and small expansions and/or protrusions with the goal of restoring normal tipping to the lower teeth, especially if accompanied by rapid maxillary expansion (RME).[10- 12]

CONCLUSION

Therapeutic dental extractions are a common finding among patients undergoing orthodontic treatment with angle class II malocclusion being the most common reason for dental extractions.

REFERENCES

1. Telles CS, Urrea BEE, Barbosa CAT, Jorge EVF, Prietsch JR, Menezes LM, et al. Diferentes extrações em Ortodontia (sinopse). Rev SBO. 1995;2(2):194-9.
2. Moreira TC, Mucha NA. A freqüência de exodontias em tratamentos ortodônticos realizados na Clínica do Curso de Mestrado em Ortodontia da Faculdade de Odontologia da UFRJ. Ortodon Gaúch. 1997;1(2):121–30.
3. Gaya C, Capelli JJr, Oliveira RS, Silva ACP. Frequências de extração em pacientes submetidos a tratamento ortodôntico. Rev SBO. 1999;3(8):303–7.
4. Vaden JL, Dale JG, Klontz HA. O aparelho tipo Edgewise de Tweed-Merrifield: filosofia, diagnóstico e tratamento. In: Graber TM, Vanarsdall RL. Ortodontia: princípios e técnicas atuais. Rio de Janeiro: Guanabara Koogan; 1996. 897.
5. Weintraub JA, Vig PS, Brown C, Kowalski CJ. The prevalence of orthodontic extractions. Am J Orthod Dentofacial Orthop. 1989;96(6):462–6.
6. Janson G, Maria FR, Bombonatti R. Frequency evaluation of different extraction protocols in orthodontic treatment during 35 years. Prog Orthod. 2014;15(1):51.
7. Vilella OV. Manual de cefalometria. Rio de Janeiro: Guanabara Koogan; 1995.
8. Dardengo Cde S, Fernandes LQ, Capelli Júnior J. Frequency of orthodontic extraction. Dental Press J Orthod. 2016;21(1):54–9.
9. Abdullah MS, Rock WP. Assessment of orthodontic treatment need in 5,112 Malaysian children using the IOTN and DAI indices. Community Dent Health. 2001;18:242–8.
10. Esa R, Razak IA, Allister JH. Epidemiology of malocclusion and orthodontic treatment need of 12-13-year-old Malaysian schoolchildren. Community Dent Health. 2001;18:31–6.
11. Rai AK, Yadav BK. Facilitating orthodontic teeth extraction–A technique suggestion. The Saudi Journal for Dental Research. 2016; 7(2): 96- 100.
12. Thirunavukkarasu VN, Ramachandra SS, Dicksit DD, Gundavarapu KC. Extraction protocols for orthodontic treatment: A retrospective study. Contemp Clin Dent. 2016;7(1):41–4.

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