



Opinions of a selected population of Nigerian dental surgeons on the preferred management of unerupted maxillary canines

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Abstract

Objective: To assess the survey opinions of Dental Surgeons working in one of the Nigerian Teaching Hospitals on their preferred management of unerupted maxillary canines.

Method: The setting was the Dental Centre, University College Hospital, Ibadan. The participants were 46 Dental Surgeons working within the selected Teaching Hospital. The instrument of study was a questionnaire which consisted of 10 open ended questions, for information on questionnaire, sociodemographic characteristics. Data obtained from the questionnaire were analyzed and frequencies were generated.

Result: Four main types of treatment were preferred by participants: 23(54.7%) of the dental surgeons preferred alignment with orthodontic treatment to all other forms of management, 12(28.6%) preferred surgical extraction, 5 (11%) preferred transplantation and 2 (4%) preferred observation and monitoring.

Conclusion: Opinions of dental surgeons surveyed indicated that most dental surgeons would prefer orthodontic alignment of the unerupted maxillary canine above other dental treatment.

Key words: Unerupted maxillary canines, Opinions, Dental Surgeons, Nigerian

Introduction

The maxillary canine is the third tooth from the midline of the jaw. Being an anterior tooth it plays a significant role in aesthetics and in determination of the smile line of an individual. The maxillary canine is often impacted due to lack of space in the dental arch or as a result of abnormal placement of tooth bud. The incidence of both impacted and unerupted maxillary canine has been reported in a western world population to be between 1.5-2.5%⁽¹⁾. A similar prevalence of unerupted canines have also been reported among Nigerians^(2, 3). This seemingly high prevalence requires that its management must be carefully considered.

A previous study in the United Kingdom surveyed opinions of specialists on their preferred management of unerupted canines where no orthodontic treatment was planned⁽⁴⁾. A higher percentage preferred extraction to other forms of treatment.

Some conventional ways of management of unerupted maxillary canines in our environment is orthodontic alignment, surgical extraction and transplantation. Studies have however shown that tooth extraction is the most common type of dental treatment done in this environment^(5,6). There are certain complications associated with extraction of unerupted teeth such as

infection, nerve parasthesia, tooth and jaw fracture among many others. These complications may lead to loss of function, difficulty in chewing thereby leading to a lowered oral health quality of life. Therefore it may be necessary to consider other forms treatment besides extraction for the unerupted maxillary canine.

This pilot study was conducted using a selected teaching hospital in the south west region of Nigeria, to survey opinions of dental surgeons working in the hospital on their preferred management of unerupted canines.

Materials and method

Self-administered questionnaires were distributed to all dental surgeons practicing in University College Hospital, Ibadan, one of the Teaching Hospitals in the South- West region of Nigeria. The Teaching Hospital, being a tertiary care centre accepts patients from all over the south west region of Nigeria.

The questionnaires administered consisted of 2 sections- Section A, was to collect relevant biodata information of the respondent. Section B consisted of 10 open ended questions that surveyed the opinions of the dental surgeons on their preferred management of unerupted canines (**Appendix A**).

The data obtained was analysed, frequencies were generated and opinions were documented.



Results

Forty-two questionnaires were returned out of the 60 administered, overall response rate was 70%. The respondents were dental surgeons practicing in the University College Hospital Ibadan. Twenty seven of the dental surgeons were males while fifteen were females. Their age ranged from 21-50 years, mean age 31.8. The age and gender distribution are shown in **Table 1**. The years of professional experience ranged from 1-15 years with a mean of 8.5 years.

Table 1: Age and gender distribution of respondents

Age(years)	Males(%)	Females(%)	Total(%)
20-25	3(7.1%)	2(4.7%)	5(11.9%)
26-30	8(19.0%)	5(11.9%)	13(30.9%)
31-35	9(21.5%)	5(11.9%)	14(33.4%)
36-40	5(11.9%)	2(4.7%)	7(16.7%)
41-46	2(4.7%)	1(2.4%)	3(7.1%)
Total	27(52.3%)	15(35.7%)	42(100%)

Table 2: Questions and responses of Dental Surgeons on the treatment options for impacted maxillary canines

Question/option	Response
1 What advise would you normally give to patients with unerupted teeth in your clinic?	
a) Seek Specialist advice	24(57.1%)
b) Advise extraction	12(28.6%)
c) Leave Alone	6(14.3%)
2 Would you recommend extraction of unerupted maxillary canines If no other treatment is available?	
a) Recommend Extraction	31(67.4%)
b) Avoid Extraction	11(32.6%)
3 What type of investigation would you normally recommend for patients that initially present with unerupted maxillary canines without complaints?	
a, Request routinely	20(47.6%) OPG
b, Only when there are symptoms	16(38%) Upper Occlusal
c, Occasionally	6(14.3%) Peri-apical
4 What signs and symptoms do you observe frequently in patients that present in the clinic with unerupted maxillary canines?	
a, Presence of a bulge or swelling in the buccal region	29(69%)
b, Pain	11(26.2%)
c, Ectopic Position	2(4.7%)
5 In your own opinion what would be the most important reason for treating patients with unerupted teeth.	
a, Aesthetics	18(42.8%)
b, Function	14(33.3%)
c, Speech	10(23.8%)
6 In your own opinion, what is the best treatment option for patients with unerupted maxillary canines.	
a, Orthodontic alignment	23(54.7%)
b, Surgical extraction	12(28.6%)
c, Transplantation	5(11%)
d, Observation	2(4.7%)
7 What factor would you consider as the most important in influencing your choice of treatment?	
a, Professional experience	42(100%)
b, internet	Nil
c, Textbooks	Nil

8 In those patients where no treatment is planned what advice would you give the patients ?	
a, Monitoring with radiographs every 6 months	12(28.6%)
b, Every 9 month	17(40.5%)
c, One yearly	10(23.8%)
d, Two yearly	3(7.1%)
9 In your own opinion what would you consider as the most favorable position of the unerupted maxillary canines on radiograph in cases to be considered for orthodontic alignment	
a, Vertical position	29(69%)
b, Buccal	10(23.8%)
c, Palatal	3(7.2%)
10 Do you consider management of unerupted canines as a specialist area	
a, Yes	23(54.7%)
b, No	10(23.8%)
c, Not sure	9(21.5%)

Discussion

Orthodontic treatment was favoured over all other forms of treatment for the unerupted maxillary canine. Fifty percent of the dental surgeons would prefer orthodontic treatment when compared to surgical extraction (35%), transplantation (5%) or observation (4%). The result of this study is in agreement with other studies where orthodontic treatment has been reported to be the most preferred treatment for unerupted maxillary canines⁽⁷⁻⁹⁾. One key factor to consider for successful alignment of the unerupted maxillary canine is the patient co-operation, though it has been reported that missed appointments and poor oral hygiene may influence treatment duration⁽¹⁰⁻¹²⁾. The age of a patient at the start of treatment has been found to affect treatment time and, since this may be lengthy, older patients may find it to be unacceptable. The upper age limits suggested for successful alignment of an unerupted canine include 16 and 20 years of age^(13,14). The presence of spacing or crowding in the arch is also important as it has been reported that in 85% of subjects with palatal displacement of a canine there is adequate space in the arch⁽¹⁵⁾, whilst in crowded arches the canine is more likely to erupt in a buccal position⁽¹⁶⁾. The position of canine and the angulation of the tooth, either the bucco-palatal, vertical and horizontal position, all influence treatment. Canines angulated towards the horizontal are difficult to manage and have a poorer alignment prognosis⁽¹⁷⁾. A bucco-palatal position of the canine crown also influences the treatment decision, with palatally impacted canines more likely to be exposed and aligned. It has been reported that the higher above the occlusal plane the canine is positioned, the poorer the prognosis for alignment⁽¹⁷⁾. Surgical extraction of the unerupted maxillary canine was next to orthodontic alignment as 38% of the dentists preferred it as a treatment option. Surgical extraction may lead to certain complications such as damage to the adjacent roots of surrounding teeth, pain, paraesthesia of d mobility of adjacent teeth therefore proper assessment of such unerupted teeth should be done before extraction. the lip and mobility of adjacent teeth therefore proper assessment of such unerupted teeth should be done before extraction.



The position of the unerupted tooth may also determine the treatment option as angulation of the unerupted tooth to the midline increases so does the likelihood of removal rather than attempted alignment^(18,19).

Transplantation as a treatment option may be preferred to extraction especially when there is a good chance of success. There are also complications associated with transplantation such as failure of the transplanted tooth to attach to the surrounding periodontium, leading to mobility and eventual loss of the tooth. Discoloration and ankylosis of the transplanted tooth may also occur over a period of time.

The percentage of dental surgeons that would prefer conservative management by leaving the tooth in the arch was small (4%) when compared to those dental surgeons that would prefer extraction (35%). However Current guidelines⁽²⁰⁾ on the management of unerupted teeth favor retention of unerupted rather than extraction. A major argument for this is that it helps to preserve arch integrity and prevent complications associated with extractions.

Studies^(19,20) have shown that the total population morbidity resulting from the routine extraction of impacted teeth exceed complications arising from routine observation of such teeth. Therefore it may be wise to avoid extraction of unerupted teeth as much as possible especially when they are asymptomatic.

The opinions surveyed showed that professional experience was the main factor that influenced the opinions of the dental surgeons. The opinion expressed here can be said to be generalized as most of the dental surgeons had a reasonable wealth of experience with a mean of 8.5 years of experience.

Therefore the result of this study can be said to represent the general opinion of dental surgeons practicing in Ibadan, Nigeria.

Conclusion

This study surveyed the opinions of a selected population of Nigerian dental surgeons on the management of unerupted maxillary canines. Majority of the dental surgeons who participated in this study preferred orthodontic alignment of the unerupted maxillary canine above surgical extraction, transplantation and observation.

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