INTRODUCTION

The third molar teeth are last to erupt and have a relatively high chance of becoming impacted. In addition, because chewing loads are an important determinant of mandible and teeth sizes (Macknamara, 1975) it is probable that as an adaptation, Africans have larger jaws than individuals born and brought up in developed nations where diet tends to be relatively softer. Thus, if space deficiency is the main underlying cause of impaction of third molars (Seward et al, 1987; Henry, 1969), a lower prevalence of impaction of these teeth would be expected among Africans. Although this hypothesis has been supported by observations that among American males aged 17 - 26 years, 65% have 1 to 4 impacted third molars compared to 9,2% among Nigerian Africans (Morris an Jerman, 1971; Odusanya, 1986), little is known about the occurrence of impacted third molar teeth among Africans from other regions. Moreover, while the common indications for removal of impacted third molars among individuals in the western world* include among others pericoronitis and caries (Laskin, 1969, Guralnick, 1984), the role of these factors in morbidity associated with these teeth among African populations is largely unestablished. The purpose of this paper is to report on the incidence of impacted mandibular third molars and associated pathologies among African patients treated in the dental and oral surgery department in the Kenyatta National Hospital (KNH) in Nairobi, Kenya.

MATERIALS AND METHODS

Eight hundred and twenty seven records of patients who had been treated for impacted third mandibular molar teeth during a period of 6 months in 1989 were considered. These patients were among 10.7% of patients referred to the minor oral surgery clinic from the general diagnostic clinic of the department where a total of 52,492 patients had been seen. Personal details including age, sex, diagnosis, X-ray type, type of impaction, associated pathology, antibiotics used and post operative complications were recorded. It is noteworthy that the KNH clinic handles about two thirds of the dental patient load in the city and its environs. It was assumed that the observations made would be reasonably representative.

RESULTS

Sixty six percent of the patients were in the 21-30 years age group (Figure 1).

Figure 1 : Age distribution

The men to women ratio was 7 : 5. Diagnostic radiographs in the form of intra-oral periapicals had been on 65.2% of the patients. The ratio of the right to left third molar impactions was 8 : 11. Preoperative examination revealed that 62.4% of the patients had mesio angular impactions. Other types of impactions included distoangular, horizontal and vertical impacted impactions (Figure 2). 46.4% and 32.9% of patients had caries of the impacted teeth and sound symptomless impacted mandibular third molars respectively. 60.4% of patients received postoperative antibiotics and 85% of these received phenoxymethyl penicillin (Pen V). The remaining 15% received the following: crystalline penicillin with or without a course of Pen V (8.2%), other penicillin (3.5%) or tetracylines and sulphamethoxazole /trimethoprim (Septrin) 3.3%. Among 132 patients who presented with complications, half were due to alveolar osteitis and 23.5% were due to trismus. Only 2 of the patients with alveolar osteitis had not received antibiotics postoperatively.
DISCUSSION

The results of this study confirmed those of Osborn et al (1985) that the majority of impacted third molars are diagnosed and disimpacted during the second and third decades of life. The incidence of impacted mandibular third molars was 15.8/1000 patients. Although slightly higher, a comparatively low incidence of 22.3/1000 patients with mandibular impacted and displaced lower third molars has been observed among Sri Lankans dental patients (Amaratunga and Chadrasekera, 1988. The difference could partly be attributed to the fact that the latter considered only 17 to 30 years olds and a smaller sample size (n = 2208). It is noteworthy that data from a previous survey to establish caries prevalence among Kenyans, mandibular third molars were missing in 55/1000 individuals aged 21 years and congenitally missing mandibular third molars and because impacted erupted molars had not been considered, it is probable that the occurrence of impacted mandibular third molars could be higher.

Since the median age of eruption of mandibular third molars among Kenyan Africans is 17.6-18.3 years (Hassanali, 1985), the observed low incidence of impacted mandibular third molars probably reflects a relatively low occurrence of these impactions in the local population compared to that reported for American males (Moris and Jerman, 1971). Additionally, it is of some interest to note that among dry adult African mandibles that were collected between 1952 and 1970 and preserved in the National Museum in Nairobi, the occurrence of impacted third molars was 7.9% (n=142).

The reasons behind reversal of the male to female ratios in our study and that of the Sri Lankans when compared to some Industrialised nations, (Seward et al, 1987 ; Goldberg et al, 1983) were not known to us.

Despite comparable socio-economic standards between Kenya and Sri Lanka, the proportion of patients with pericoronitis was half that reported among Sri Lankans. In contrast, pain due to caries was the main factor that made patients seek treatment (46.4%) in our study compared to 19.6% among Sri Lankans. Similar inter centre variations have been reported among Americans, Goldberg et al (1983), 21% and Bruce et al (1980), 39.8%. Our findings conformed with previous reports that tooth mortality among Kenyans was primarily due to caries (Manji et al, 1989). In the Bruce et al (1980) series, 8.8% of disimpactions were performed due to caries. Although the proportion of patients with mesio angular impactions (62.5%) in our study and (58.2%) among the Sri Lankans was higher than that reported by Morris and Jerman (1971) for American males (42.0%), it appears that mesio angular impactions are probably the commonest. This is not entirely surprising when one considers that the normal developmental and path of eruption of mandibular third molars antero superior. Post operative findings revealed the incidence of alveolar osteitis to be within the range reported from other societies (Seward et al, 1987 ; Bruce et al 1980).
Despite limitations such as the self selected sample considered in this study, our observations appear to support the view that impacted mandibular third molars are probably less common in the developing nations. In addition, in view of limited health resources that are available to us, there is need to emphasise to primary oral health care workers in these nations the importance of diagnosis and early referral of individuals with impacted third molars for definitive management.

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SUMMARY

We investigated the incidence of impacted mandibular third molars among 52,492 dental patients who attended the National Hospital in Nairobi, with a view to obtaining an indication of the magnitude of the problem in the community. The incidence was 15.8 per 1,000 patients. 66.2% of the patients were aged between 21 - 30 years and 19.9% were less than 20 years old. The men to women ratio was 7 : 5. The commonest pre-operative findings with regard to type of impaction and associated pathological process were mesio angular impactions (620.4%) and caries (46.4%) respectively.

Key-words : Mandibular third molars, impaction, incidence, Nairobi.

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