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Ameloblastoma and keratocyst : Statistical analysis of cases

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Abstract

Seventy four cases of odontogenic ameloblastoma (OA) and forty three cases of odontogenic keratocyst (OKC) were obtained from the files of the Department of Oral Pathology, College of Dentistry, Baghdad University covering the period from 1980 to 1990.The cases were analyzed according to sex, age and location. Results showed that males were affected by OA 45(60.8%) and OKC 24(55.8%) more than females 29(39.2%),19(44.2%), respectively. In this study OA occurred more frequently in 21-30 years age group 25(33.8%).Regarding OKC the most affected age group were 21-30 years and 11-20 years 12(27.9%) and 8(18.6%), respectively .The mandible was the most frequent site of involvement for both OA 65(87.8%) and OKC 27(62.8%).Most of the findings in the present study agreed with previous available data from the literatures.

Key words: Ameloblastoma, odontogenic keratocyst

Introduction

Odontogenic keratocyst (OKC) is a destructive form of developmental odontogenic cyst. There is general agreement that OKC arises from cell rest of the dental lamina, several investigations suggest that OKC may be regarded as benign cystic neoplasm rather than cyst, and they have shown that OKC make up 10-12% of all developmental OKC[1]. Multiple OKC may be present in jaws of patients affected with nevoid basal cell carcinoma (Gorlin syndrome)[2].

OKC can develop at any site in the jaws, with approximately 2/3 of cases occurring in mandible primarily in the body and ramus areas. Many authors have reported the occurrence of OKC in mandible more than maxilla [3-5].OKC possess a remarkable growth potential greater than the other odontogenic cysts and can attain a large size resulting in a massive bone destruction[6].

OKC is more common in male than female and occurs over a wide age range (1st to 8th decade of life) with a peak incidence in 2nd and 3rd decades [3,5]. Radiographically, the OKC appears as a well defined solitary lesion or as a multilocular polycystic radiolucency with a thin margin [6].

The histological features of OKC consist of thin uniform lining of parakeratinized squamous epithelium of 6-10 cells ,corrugated parakeratin on the luminal surface and lack of retipegs formation[7].

Odontogenic ameloblastoma (OA) is a locally aggressive but benign epithelial neoplasm of odontogenic origin[1].It is most commonly located in

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the mandible mainly in the posterior area(8-13).The majority of lesions occur in young patients between 2nd and 4th decades of age (8-12).

Clinically OA according to treatment could be classified into polycystic, unicystic and rarely peripheral (extraosseous) .OA is a slowly growing lesion and has tendency to expand.

Radiographically it appears as multilocular radiolucency giving a soap-bubble appearance or also may appear as unilocular radiolucency in unicystic type (6).

Regarding histopathological appearance, OA has six different types, these are: follicular pattern, acanthomatous pattern, granular cell variant, plexiform pattern, basal cell variant and desmoplastic types [(1)].

Material and method

Seventy four cases of OA and 43 cases of OKC presented in this study were obtained from the files of the Department of Oral Pathology, College of Dentistry; Baghdad University covering the period from 1980 to1990.The clinical features recorded was analyzed statistically according to sex, age and location. The cases were diagnosed by well expert Oral Pathologist .All the diagnosed specimens were stained by hematoxyline and eosin stain.

The purpose of this study is to provide a relative incidence regarding sex, age group and location of OA and OKC.

Results

Figure I show the distribution of OA and OKC according to sex of patients. There were 45(60.8%) males affected by OA which were higher than females 24 (55.8%) and 19(44.2%), respectively.

The distribution of OA according to location and sex is shown in figure II. The highest age group affected was noticed in 21-30 years (33.8%) followed by age group 51-60 years (14.9%) and then 41-50 years (13.5%).The least incidence was found in 71-80 years age group (1.4%).

In case of OKC, its distribution according to age and sex is shown in figure III. The younger age group 21-30 years have the highest incidence (27.9%) followed by the age group 11-20 years (18.6%) and the age groups 31-40 years ,41-50 years with the incidence(14%) for each. No cases were found in age group 71-80 years.

The mandible was highly affected by OA (87%) than maxilla (5.4%) as explained in figured IV. The same condition is seen for OKC, its incidence in the mandible was (62.8%), whereas it was (34.9%) in the maxilla .In the mandible, the male patients for both OA and OKC were affected more than female patients(figure IV).

Discussion

Several studies reported that OA and OKC were found more frequently in males than females [(3,5,14,9)], and this is in accordance with the present study (figure I).Whereas other studies have found a female predilection [(8,10,11,13)].In this study OA occurred in a wide age range as seen in figure II. It was observed more frequently in 3rd decade of age(21-30years)age group, this result come in agreement with other studies[(8,11,12)].Whereas in other study OA was occurred more frequently in older age group(40-50)[(10)].Other study from Japan have shown that of 72 cases OA about (65%) of patients were in the 2nd ,3rd and 4th decades of life being slightly more in age group 20-29 years[(9)].

Regarding OKC, as shown in figure III, the age groups (2nd and 3rd decades) were greatly affected by OKC, this finding agrees with results of other studies [3,5].A peak incidence in the 2nd decade was noticed in a study of 81 patients with OKC[2].

OKC involves the mandible in about 70-80% of cases [2].In this study OKC affects mainly the mandible more than the maxilla (figure IV), this result is similar to the most of the findings of other studies[3-5].In general OA is located mainly in the mandible [1].In the present study there was a striking predilection of OA in the mandible 65 cases(87.8%) as seen in figure IV ,this result was also seen in other studies[8,9,12,13].

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Fig. 1: Distribution of ameloblastoma and keratocyst according to gender of patients

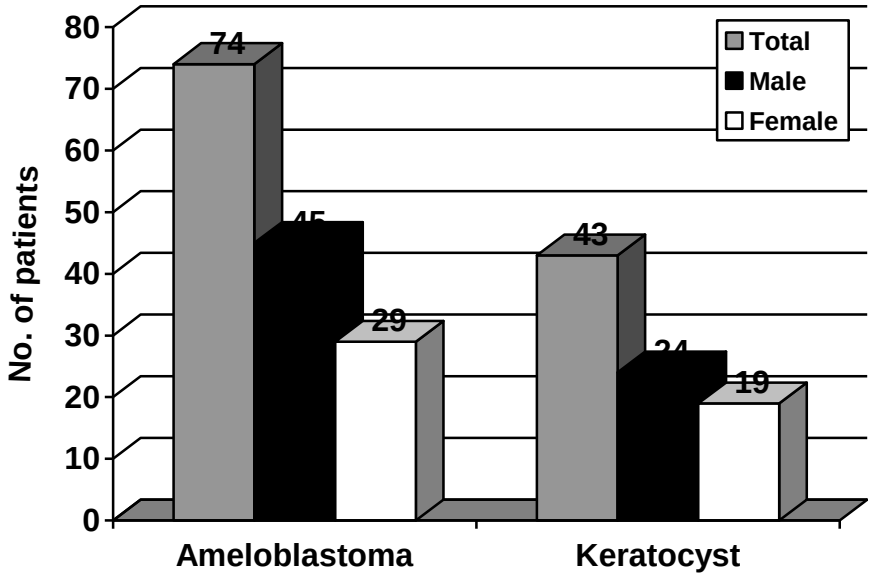

Fig. 2: Distribution of ameloblastoma according to age and gender of patients

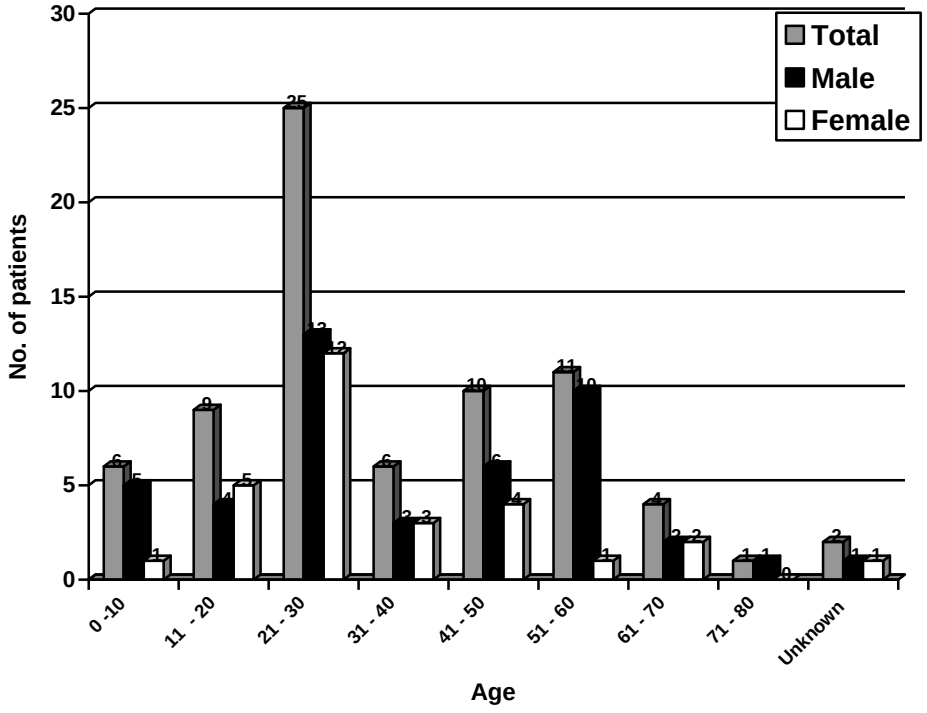

Fig. 3: Distribution of keratocyst according to age and gender of patients

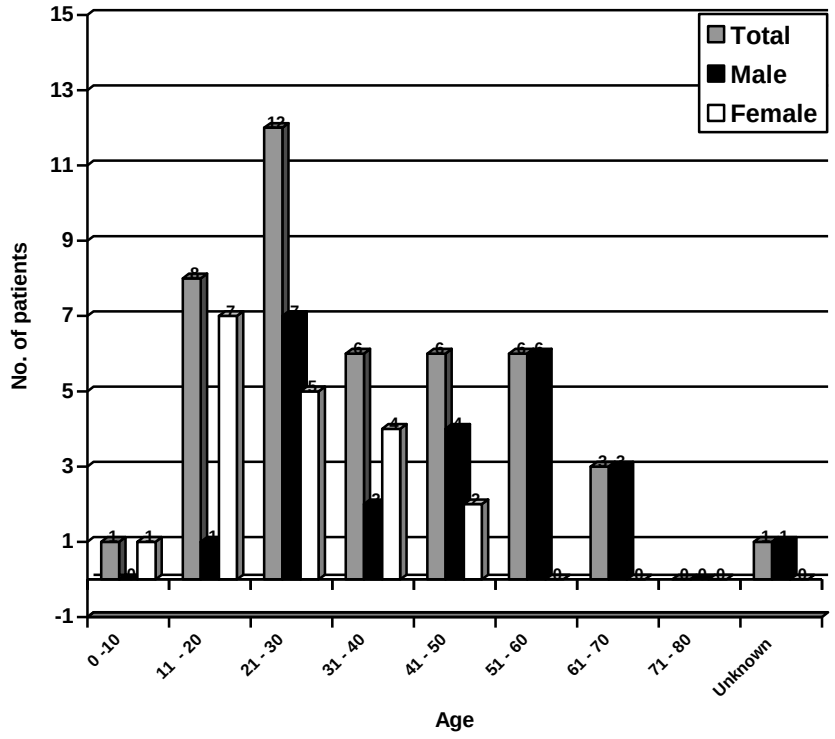

Fig. 4: Distribution of Ameloblastoma and Keratocyst according to location