

# Distribution of Clinico-pathological variants of Ameloblastoma, in a tertiary care hospital of Pakistan, over a period of one year

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## ABSTRACT

**Aim:** To establish the relative incidence and provide clinico-pathological information about the various histological types of ameloblastoma reported over a period of one year at the Fatima Memorial Hospital, Lahore in order to provide a baseline data which will be of significance to the pathologist.

**Method:** Clinico-pathological data on a total of 14 histologically diagnosed cases of ameloblastoma archived at the Fatima Memorial Hospital, Lahore over a period of one year was obtained and analyzed histologically and descriptively.

**Results:** Ameloblastoma occurs most commonly during the fourth decade of life with an age range of 7-60 years. Mean age is 38.28 years. Females 11(79%) are more commonly affected as compared to males 3(21%). Majority of the cases have been reported in the mandible 13(92.8%) while 1(7.2%) was seen affecting the maxilla. Radiographical findings showed 7(50%) cases presenting with unilocular radiolucency and 7(50%) cases with multilocular radiolucencies. Histological findings confirmed the follicular pattern of ameloblastoma to be most frequent 6(42.85%) of all 14 cases. Unicystic ameloblastoma was the second most commonly occurring variety 4(35.71%). Acanthomatous variety of ameloblastoma 1(7.14%), plexiform 1(7.14%) and desmoplastic variants 1(7.14%) were also found and have similar predilection.

**Conclusion:** This study provided a baseline data about the variants of ameloblastoma obtained in a suburban population. Since variants of ameloblastoma differ in biologic behaviour, the data collected in this study has provided significant clinico-pathological information about all the reported cases to the pathologist and the clinician.

**Keywords:** Ameloblastoma, radiographs, desmoplastic variants

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## INTRODUCTION

Tumours originating from the tooth forming tissues are called odontogenic tumours. Ameloblastoma is a slow growing, expansile, non-metastatic locally aggressive odontogenic tumour; with a high risk of recurrence. The sites most commonly involved are posterior mandible (80%) and posterior maxilla (20% near third molar)<sup>1</sup>.

Radiographic presentation may show a unilocular or a multilocular, lytic, radiolucent lesion with well-defined, sclerotic margins<sup>2</sup>. Ameloblastomas have been accounted as the second most common odontogenic tumour affecting the jaws after odontomas<sup>3</sup>. Radiographical and histological analysis is usually done to make a conclusive diagnosis and determine the histological variant under study.

## METHOD

A total of 14 cases have been recruited for the present study. Patient's demographic and

radiographical data has been collected and biopsy samples were obtained. After gross examination of every sample biopsy was done using conventional Haematoxyline and Eosin stains. The histological variant of ameloblastoma found for the respective cases under study has also been reported.

## RESULTS

It has been found that Ameloblastoma is a locally aggressive and expansile odontogenic tumour which occurs most commonly during the fourth decade of life. Age range is 7 years-60 years. Mean age group 38.28 years. Females 11(79%) are more prone to ameloblastoma as compared to males 3(21%). Majority of the cases have been reported affecting the mandible 13(92.8%) while 1(7.2%) case has been seen affecting the maxilla. Radiographical findings showed 7(50%) cases presenting with unilocular radiolucency and 7(50%) cases with multilocular radiolucencies. Histological findings confirmed the follicular pattern of ameloblastoma to be most frequent 6(42.85%) of all 14 cases. Unicystic ameloblastoma was the second most commonly occurring variety 4(35.71%). Acanthomatous variety of ameloblastoma 1(7.14%), plexiform variety of

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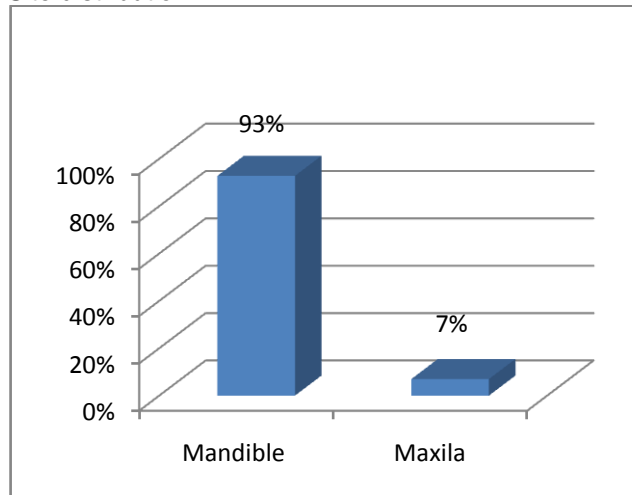
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ameloblastoma 1(7.14%) and desmoplastic variant 1(7.14%) were also found.

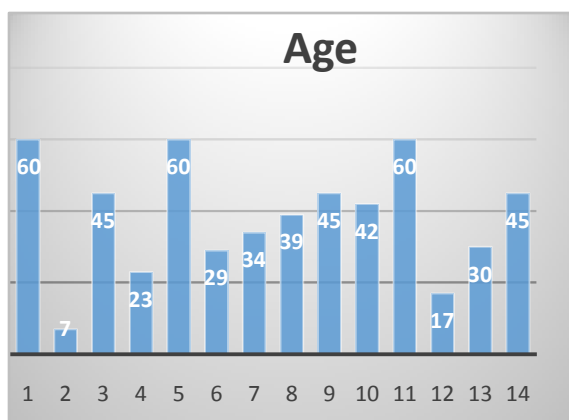
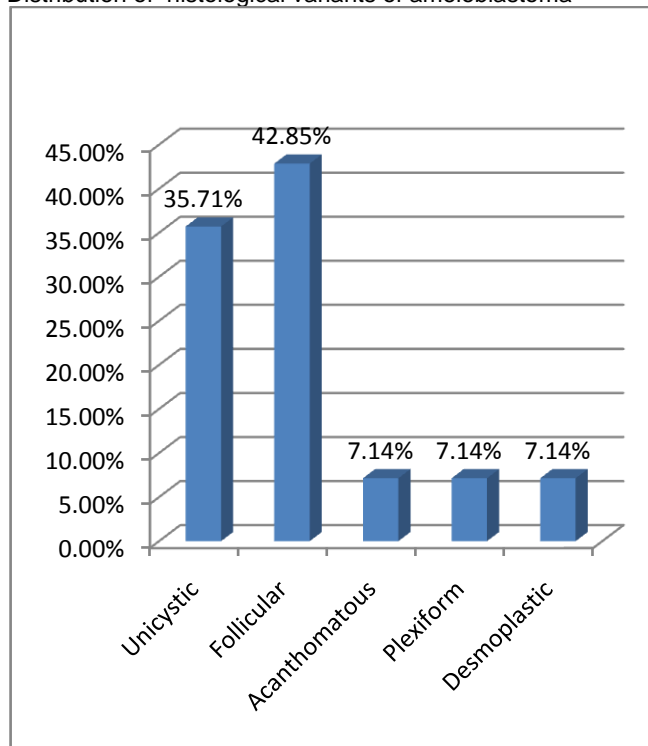
Fig 1: OPG showing right side of the mandible with multi loculated soap bubble radiolucent lesion.



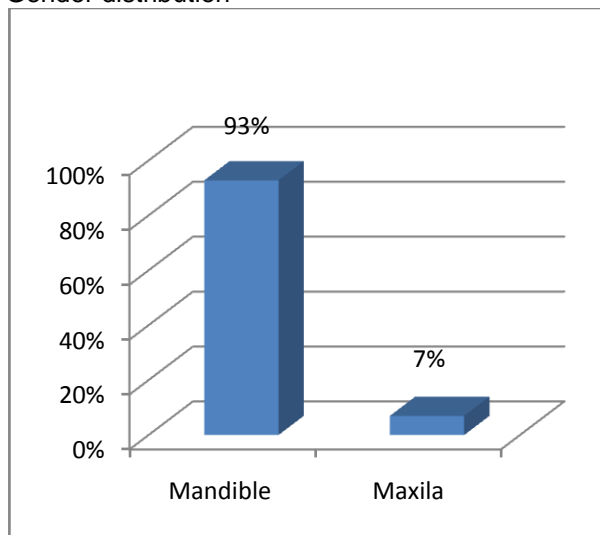
Site distribution



Distribution of histological variants of ameloblastoma



Gender distribution



### DISCUSSION

Different studies have been done in various regions of the world and over a variety of ethnicities showing the distribution and presentation of ameloblastoma. The present study showed ameloblastoma to commonly occur during the fourth decade of life and at a mean age of 38.28 years. This is in accordance with a study done by Santos et al., 2014 who showed the mean age to be 35.1±16.8 years. The present study showed a female predilection for ameloblastoma which again is consistent with a study

done by Dinkar et al., in 2014 in Goa, India which also showed that female patients were more prone to ameloblastoma as compared to males. Ameloblastoma in the present study was more commonly detected in the mandible (92.8%) than maxilla (7.2%) this site distribution is again consistent with the results of the studies done by Lu et al., in 1998, Santos et al., 2014 and Dinkar et al., 2014 who also observed mandibular ameloblastomas to be more prevalent than such maxillary tumours. According to Worth, 1975 the most common radiographic appearance of ameloblastoma is a multilocular radiolucency with a corticated border, and margins, which usually show irregular scalloping. In the present series, a multilocular appearance was seen in 50% cases, while 50% cases showed a unilocular radiographical appearance. This is in accordance to Reichart, et al., 1995 who found a multilocular appearance in 51% cases and a unilocular appearance in 49% cases.

Follicular ameloblastoma was the most common to occur (42.85%) followed by unicystic ameloblastoma (35.7%) while plexiform (7.14%), acanthomatous (7.14%) and desmoplastic (7.14%) variants of ameloblastoma had an equal incidence to occur. Adebisi et al., 2006 in their study also noted the follicular ameloblastoma (64.9%) to be the most common variant present, followed by plexiform (13%), desmoplastic (5.2%), acanthomatous (3.9%) and unicystic (1.3%) varieties respectively. The slight difference in their occurrences is because of the geographical differences and because of our small sample size.

## CONCLUSION

This study provides a baseline data on the distribution and frequency of the different variants of ameloblastoma obtained in a suburban population. Since variants of ameloblastoma differ in biologic behaviour, the data collected in this study will provide

clinico-pathological information which will be of significance to the pathologist and the clinician.

**Conflict of Interest:** None

**Author's Contributions:** All the authors contributed equally in the study.

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