

A Seven Year Retrospective Clinico-Pathologic Analysis of Fibro-Osseous Lesions in A Tertiary Dental Health Care Centre

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Abstract: Fibro-osseous lesions pose a diagnostic difficulty as they are not distinguishable histologically. Here, a 7 year retrospective clinic-pathologic analysis of fibro-osseous lesions was studied in Govt. Dental College, Trivandrum. Confirmed fibro-osseous lesions reports between the months of August 2008 – July 2015 were retrieved. The lesions were selected on the basis of WHO 2005 classification of fibro-osseous lesions. Patient's clinical data including the age, gender, anatomic location and diagnosis was retrieved. Data was entered in excel sheet and the percentage prevalence of the cases was done. It was seen that the number of cases that reported to the Department was 34 which is only about 1% of total cases that reported to the Department. Out of this 61.77% of cases were cemento-ossifying fibroma, 32.36 fibrous dysplasia and 5.88% central giant cell granuloma. 97.06% of cases were females and 2.94% were males. In 67.65 % mandible was affected, 29.42% affected maxilla and 2.94% affected zygoma. Mean age of those affected was 29.06 years with maximum prevalence seen in the age groups of 11-20 and 31-40 years. Among those affected 11.76% showed non expansile lesions, 47.06 % showed buccal, 2.94% lingual and 38.24 % showed bilateral expansion. It is seen that fibro-osseous lesions affects mostly females especially in the third decade. Cemento-ossifying fibroma represented the majority of the lesions and most were buccally expanding lesions Prospective studies are needed to be done as why and what seem to be the cause of the lesion.

Keywords: Fibro-osseous lesions, Fibrous dysplasia, cement-ossifying fibroma, central giant cell granuloma.

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I. Introduction

Fibro-osseous lesions are a diverse group of lesions characterised by a process leading to the replacement of normal bone by collagen tissue containing newly mineralised tissue, giant cells and blood vessels¹. All of these lesions come under one of the three categories: fibrous dysplasia, ossifying fibroma and osseous dysplasia. All of them demonstrate replacement of normal bone by fibrous connective tissue consisting of mineralized product, including osteoid, mature bone, and/or cementum-like calcifications. Therefore a histologic diagnosis of benign fibro-osseous lesions is, in many cases, relatively uncomplicated. The fibro-osseous lesions are usually diagnosed by the histological findings in conjunction with clinical examinations and patient radiographs². There are different classifications for fibro-osseous lesions of the jaws. The sub classification of benign fibro-osseous lesions is the main challenge and this is not merely an academic exercise because the therapeutic management of these lesions varies depending on the actual disease process. Here we are following the working classification of fibro-osseous lesions suggested by Waldron.³ Though there are several documentations on epidemiological studies on fibro-osseous lesions of jaw worldwide, in India, literatures regarding the same are very few so far. One retrospective study was conducted by Panda et al⁴ in 2007 in the Department of Otolaryngology-Head and Neck Surgery, Post Graduate Institute of Medical Education and Research, Chandigarh, India during 1985 to 2004. In the study, most (72.7%) cases were that of fibrous dysplasia under 25 years of age (72%).

Maxilla was the most common bone involved (81%). No epidemiological studies on fibro osseous lesions of the jaw have been reported yet in Kerala population, hence this study.

II. Aim And Objectives

The aim of this study was to assess the relative frequency and distribution of fibro osseous lesions of the jaws according to study variables - age, gender of the patient and site of the lesion reported in Government Dental College, Thiruvananthapuram.

III. Materials And Methods

The study was conducted in the Department of Oral Pathology and Microbiology, Government Dental College, Thiruvananthapuram. It is a retrospective cross sectional study. Histopathologically proven cases of benign fibro-osseous lesions from Aug 2008 to July 2015 were taken. The inclusion criteria was patients with histopathologically diagnosed fibro-osseous lesions while the exclusion criteria was cases with incomplete records, fibro-osseous lesions associated with other lesions and repeat biopsy cases. The variables studied were age, sex, site of the lesion and histopathological diagnosis. Descriptive statistical analysis was done using non-parametrical tests with the computer software, Statistical Package for Social Sciences (SPSS) version 16 for Windows Operating System.

IV. Results

The relative frequency and distribution of cases of fibro osseous lesions of the jaws according to study variables - age, and gender of the patient and site of the lesion reported at Government Dental College, Thiruvananthapuram. The data was entered in excel sheet. Out of 4348 biopsies examined only 34 cases of fibro-osseous lesions were reported. Out of these, 61.77% of cases were cemento-ossifying fibroma, 32.36% fibrous dysplasia and 5.88% central giant cell granuloma. 97.06% of cases reported were females and 2.94% were males. In 67.65 % cases mandible was affected, 29.42% affected maxilla and 2.94% affected zygoma. The mean age of those affected was 29.06 years with maximum prevalence seen in the age groups of 11-20 and 31-40 years. Among those affected 11.76% showed non expansile lesions, 47.06 % showed buccal, 2.94% lingual and 38.24 % showed bilateral expansion.

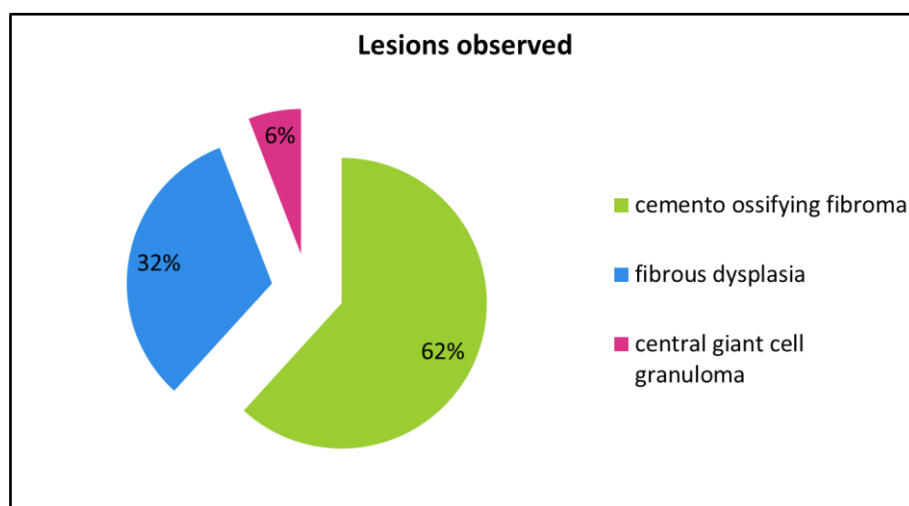


Fig 1.1: shows the total number of different fibro-osseous lesions reported.

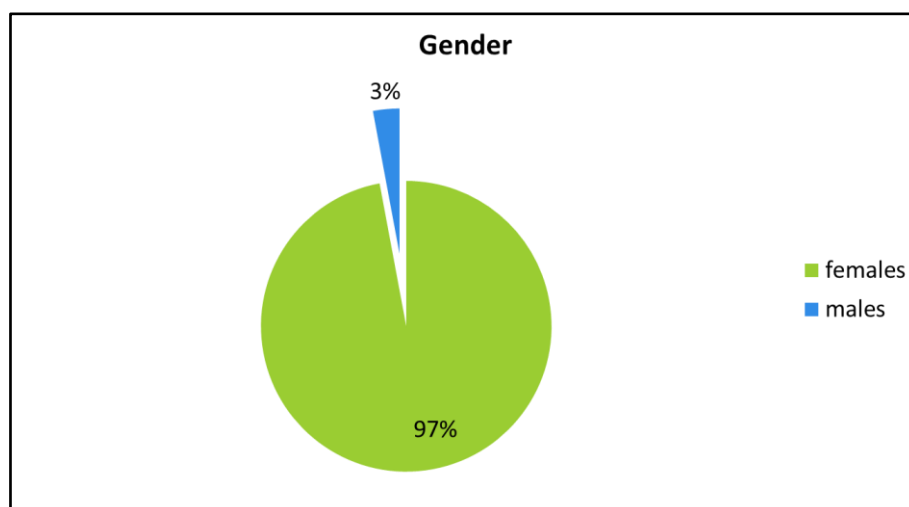


Fig 1.2: shows the lesions reported on the basis of gender

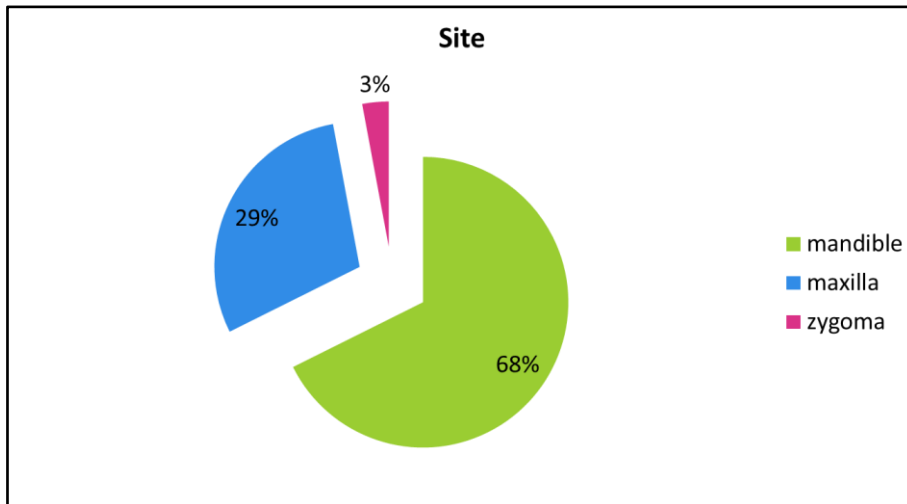


Fig 1.3: shows lesions reported on the basis of sites in the head and neck region

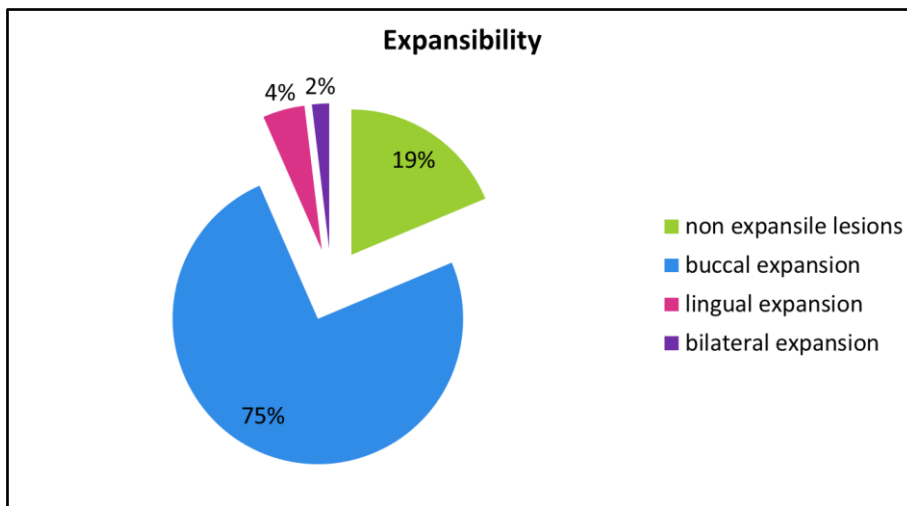


Fig 1.4: shows lesions based on the expansile nature

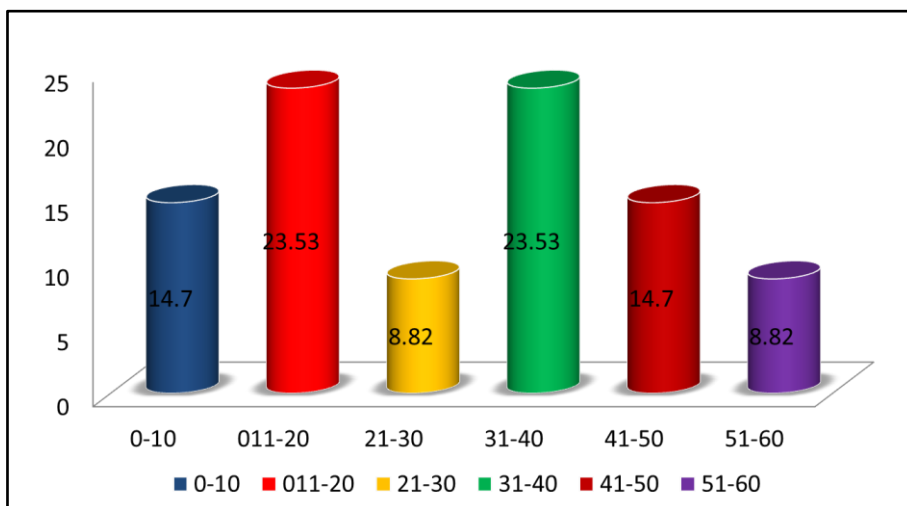


Fig 1.5: shows the lesions reported in relation to age at the time of diagnosis

V. Discussion

In our study, out of 4348 biopsies, only 34 cases (0.78 %) were diagnosed as fibro-osseous lesions. This shows the rarity of fibro osseous lesion and the result is similar to that of Worawongvasu R et al⁵ where fibro-osseous lesions of the jaws were found to be 2.5% of the total 4808 biopsy specimens. Among the fibro osseous lesions, the most frequent lesion was cemento-ossifying fibroma (61.77%) followed by fibrous dysplasia (32.36%).

Our report is in agreement to the findings of - Erika Vegas et al⁶ where, 63.6 % cases were of cemento-ossifying fibroma and 36.3% were fibrous dysplasia. Worawongvasu R et al⁵ found that in Thailand the most frequent fibro osseous lesion of the jaw were ossifying fibroma (50.8%), followed by fibrous dysplasia (42.6%). The age of occurrence of fibro osseous lesions appeared to be variable, but most cases were diagnosed during the second and fourth decades of life (23.53 % and 23.53 % respectively) with an average age of 29.06 years. This is in accordance with previous reports like that of - Ajagbe H.A et al⁷, Yoon JH et al⁸, Rathapong Worawongvasu R et al⁵, Ogunsalu C.O et al² study in Jamaica. There is a consistent female predilection in the incidence of fibro osseous lesions. In our study 67.65% lesions were seen in mandible which agrees with the reports of Worawongvasu R et al⁵ (66.4% cases in mandible) but contradictory to Yoon JH et al⁸ (51% cases in maxilla) and reports of Ajagbe H.A et al⁷ (55.6% cases in maxilla). This study was undertaken to determine the relative frequency and distribution of cases of fibro-osseous lesions of jaw according to the study variables such as age, gender of the patient and site of the lesion. The results show the rarity of the fibro-osseous lesions in jaw bones and increased frequency of ossifying fibroma and fibrous dysplasia among the fibro-osseous lesions. Our study results are in agreement with the published reports

VI. Conclusion

This study was an attempt to see if there are any changing patterns which has not been reported yet. The study points towards the fact that fibro-osseous lesions are rare in jaw bones. Among the fibro-osseous lesions, fibrous dysplasia and ossifying fibroma constituted the major bulk. The demographic details studied were in agreement with the published reports.

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