

Socio-demographic Spectrum of Neoplastic and Nonneoplastic Bone Lesions

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Article Info: Received 24 April 2022; Accepted 30 May 2022

doi: <https://doi.org/10.32553/ijmbs.v6i5.2556>

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Conflict of interest: No conflict of interest.

Abstract

Background: Bone tumours are comparatively uncommon among wide array of lesions and pose a diagnostic problem. Definitive clinical diagnosis of bone lesion is often difficult. So it is essential to identify the lesion correctly before deciding the line of treatment. For the correct diagnosis of bone lesions, charting out treatment plan and estimating prognosis, interpretation of biopsy material proves to be indispensable.

Method:- This hospital based cross-sectional study conducted 50 histopathological reports and slides of patients who had bone tissue biopsies were reviewed to provide relevant information on age, sex, histopathological interpretation, and the anatomical site of occurrence.

Results: Mean age of patients was 21.36 ± 6.39 yrs and 58.00% patients were male. 62.00% patients belonged to rural area. 78.00% patients were benign and 22.00% patients were malignant.

Conclusion: In our study, neoplastic bone lesions were more common than non-neoplastic bone lesions. Bone lesions were more common in younger age group.

Keywords: Bone Tumours, Histopathology, Giant Cell Tumour, Osteosarcoma

Introduction

Neoplasms and tumour like conditions of bone are rare. Thus, orthopaedic surgeons, radiologists, and pathologists generally have little experience with these lesions. Bone tumours also tend to affect young children and adolescents. Bone lesions often pose diagnostic challenges to surgical pathologists. Therefore, an integrated approach involving radiographic, histologic, and clinical data are necessary to form an accurate diagnosis and to determine the degree of activity and malignancy of each lesion. A proper histopathological diagnosis is useful in confirming the diagnosis and helps in staging the tumour and aid the surgeon in planning limb salvage surgery for early malignant and benign bone lesions.¹

Many inflammatory, neoplastic, degenerative and metabolic diseases occur in bones. They may

affect children, adults or the elderly persons. They sometimes occur and develop quickly, often revealing themselves through pain, or the appearance of a palpable mass or by restricting the movement of the part involved. Common presentations are progressive pain, swelling, tenderness and in some cases, acute pathological fracture.^{2,3}

Material and Methods

This hospital based cross-sectional study conducted 50 histopathological reports and slides of patients who had bone tissue biopsies were reviewed to provide relevant information on age, sex, histopathological interpretation, and the anatomical site of occurrence.

All tumours of hematopoietic and odontogenic origin were excluded in this study. Bony along

with soft tissue biopsy or in some cases amputated limb was received, and thorough gross examination of each lesion was done. Soft tissue of each biopsy was immediately fixed into 10% formalin and processed by paraffin embedding. Bone from each biopsy was kept for

decalcification in 10% nitric acid. After that, fixation in 10% formalin, processing, section cutting and haematoxylin and eosin staining was performed.

Results

Table 1: Socio-demographic profile of patients

Mean age in yrs	21.36±6.39
Male : Female	29 : 21
Rural : Urban	31:19
Hindu : Muslim : Others	42:7:1
Benign : Malignant	39:11

Mean age patients was 21.36±6.39 yrs and 58.00% patients were male. 62.00% patients belonged to rural area. 78.00% patients were benign and 22.00% patients were malignant.

Discussion

Bone lesions themselves constitute a small fraction of all the lesions prevailing in a population. It is absolutely essential to be equipped with information regarding the clinical details viz. age, gender, site and radiological findings before diagnosis of any bone lesion. Certain entities can be confused clinically like osteomyelitis and Ewing's sarcoma, traumatic fracture or pathological fracture, osteoblastoma and osteosarcoma and tuberculosis or malignancy. Therefore, histological diagnosis is a must in all bone lesions to differentiate above-mentioned entities to confirm the diagnosis of radiologist and clinician and to predict the prognosis of bone lesion on the basis of different cytomorphological criteria. The present study was undertaken with a view to find out incidence of bone neoplastic and non-neoplastic bone conditions in patients presenting to a teaching hospital and to find out common type of lesions and tumours.

In present study, bone lesions were most commonly seen in younger age group (<20 Yrs). Males were more commonly affected. Most tumours of the bone showed male preponderance

with male to female ratio of 1.2:1. Similar findings were reported in other studies.⁴⁻⁶ Femur was most common bone (54.34%) involved. Non-neoplastic and benign lesions were more common than malignant lesions similar to other study.⁷ Benign lesions were more common than malignant lesions⁸⁻¹³ Neoplastic lesions were found to be more common than non-neoplastic lesions which is in conformity with studies done by Settakom et al¹⁴ Chronic osteomyelitis was most common non-neoplastic condition affecting 7 patients (38.9%). Other non-neoplastic conditions were tubercular osteomyelitis and ABC.

Conclusion

In our study, neoplastic bone lesions were more common than non-neoplastic bone lesions. Bone lesions were more common in younger age group.

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