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CHONDROMYXOID FIBROMA: CASE REPORT OF A RARE BENIGN TUMOR OF BONE.

Pathology

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ABSTRACT

Chondromyxoid fibroma is a benign tumor of bone. On histopathological examination it shows myxoid and chondroid differentiation which may be misdiagnosed as malignant bone tumor. A case of chondromyxoid fibroma was reported in a 20year old female with a swelling over lower end of tibia.

KEYWORDS

Chondromyxoid Fibroma, Bone, Benign Lesion.

INTRODUCTION

Chondromyxoid fibroma is a rare benign cartilaginous tumor of bone affecting less than 0.5 % of all the bone tumors and younger age group affecting around 10 to 30 years of age [1]. Males are more commonly affected than female. [13] It is composed of a mixture of chondroid, myxoid, and fibrous tissues[1]. It is a slow growing lesion which initially does not produce any symptoms. Chronically presents as localized pain, sometimes restricted movements due to pain.[14]Itmay be confused for malignant tumors hence its diagnosis is important.

CASE REPORT

20 year female presented with swelling in the distal end of tibia since three months. The swelling was tender with no other specific complaints.

On gross examination, a single globular, cartilaginous, firm to hard grey white bony tissue approximately measuring 3x2.5x1.5 cm was noted. Cut section was gritty.

Microscopic examination revealed well circumscribed lesion showing hypocellular lobules of poorly formed hyaline cartilage comprising chondroblast with eosinophilic cytoplasm and myxoid tissue with fibrous septae along with spindle cells and occasional osteoclast.

Gross examination reveals grey white firm to hard tissue meas uring 3.5x2.3.1.5 cms in size

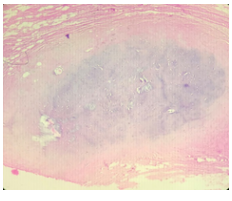

Figure A: H and E section on scanner view

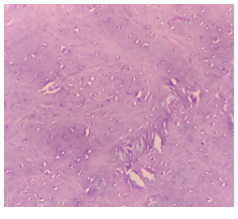

Figure B: H&E section on low power

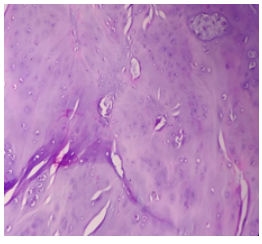

Figure C:H&E section on low power

(Figure A,B and C shows well circumscribed lesion showing hypocellular lobules of poorly formed hyaline cartilage comprising chondroblast with eosinophilic cytoplasm and myxoid tissue with fibrous septae along with spindle cells and occasional osteoclast).

DISCUSSION

Chondromyxoid fibroma is rare benign tumor of bone making up approximately for less than 0.5 % of the tumors. The common site of the tumor is the metaphysis. [1] It usually occurs in long bones affecting the population between age group of second and third decades of life.[4] Patient usually presents with pain and swelling. [2]It is a slow growing lesion. On radiological examination, a non-specific radiolucent, lytic lesion is generally seen which may erode the cortex. Sometimes calcifications may occur inside the lesion.[6] Jaffe and Lichtenstein first described it in the year 1943.[10]

Earlier it was classified as myxoma or a myxomatous variant of giant-cell tumor, other close differential diagnosis are chondrosarcoma, chondromyxosarcoma or myxosarcoma, chondroblastoma, fibrous dysplasia, chondroblastic variant of low-grade osteosarcoma.[5,8,11]

Diagnosis can be made with the help of combined clinical, radiological and histopathological studies.[3]

On gross examination of chondromyxoid fibroma has gray-white, firm well circumscribed, lobulated mass which is demarcated along with intact periosteum. Areas of myxoid appearance can be seen.[15] In our case also showed similar gross examination of the specimen.

On histopathological examination, Chondromyxoid fibroma shows hypocellular to hypercellular areas arranged in lobules. Individual cells are stellate-shaped on a background of myxoid or chondroid stroma. Osteoclast-like giant cells are also seen.[3] Mitotic figures are rare. Our case also showed similar findings.

In a study conducted by Amrah H.B.; et al also showed lobules of myxoid and chondroid tissue along with fibrous septae containing bland fibroblast and osteoclast- like giant cells.[9]

Treatment options consists of chondromyxoid fibroma are en bloc

resection, simple curettage, and curettage with bone grafting or polymethylmethacrylate placement. Although chondromyxoid fibroma is a benign tumor, it has recurrence rate when treated with simple curettage of lesion. On the contrary, if curettage with done followed by bone grafting recurrence rate declines. Gherlinzoni F et al reported that if curettage only done recurrence rate was seen in 80% of the patients, but when curettage was combined with bone grafting the recurrence rate decreased to 7%. In a study conducted by Granter et al., abnormality at chromosome 6 was noted. This rearrangement was seen at band 6q13.[7]

CONCLUSION

Chondromyxoid fibromas are rare benign tumors of bone, but they need to be differentiated from malignant tumors like chondrosarcoma, chondromyxosarcoma or myxosarcoma. It has high recurrence rate if tumor is only excised, therefore proper diagnosis which includes history and other ancillary investigation is important.

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