

# Chondroblastoma in Dog – A Rare Case

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**Abstract:** *Chondroblastoma (CB) is a rare benign chondral tumour characterised by an epiphyseal location in long bones. A four year old Rottweiler male dog was presented with the history of limping on right fore limb and swelling since two weeks as seen by owner. A plain radiograph showed a well-defined lytic defect, measuring 4-5 cm in diameter in the proximal epiphysis of the right ulnar region. The bone biopsy sample was collected and send for laboratory analysis for histopathology.*

**Keywords:** Chondroblastoma, dogs, long bone

## 1. Introduction

Benign cartilage tumours of bone are the most common benign primary bone tumours and include osteochondroma, (en)chondroma, periosteal chondroma, chondroblastoma and chondromyxoid fibroma (Douis and Saifuddin, 2012). Chondroblastoma is a cancer composed of cells derived from transformed cells that produce cartilage and uncommon benign bone tumor arising from a secondary ossification center in the epiphyseal plates and apophyses. It is estimated to represent less than 1% of all primary bone tumours (Douis and Saifuddin, 2012). More than 75% of chondroblastoma lesions involve the long bones, and the most common anatomic sites are the epiphyseal and epimetaphyseal regions of the distal and proximal femur, proximal tibia, and proximal humerus (Turcotte et al., 1993)

## 2. Materials and Methods

A three year old Rottweiler male dog was presented with the history of limping on right forelimb and swelling since 2 weeks as seen by owner. On clinical examination, vital signs like temperature, respiration and heart rate were normal. Physical examination revealed a tender swelling and pressing pain in the region of right radius and ulna. A plain radiograph showed a well-defined lytic defect, measuring 4-5 cm in diameter in the proximal epiphysis of the right ulnar region suggestive of tumour involved right ulnar bone (Fig-1) and under general anesthesia, bone sample was collected and fixed in 10% formalin and send for histopathological examination.

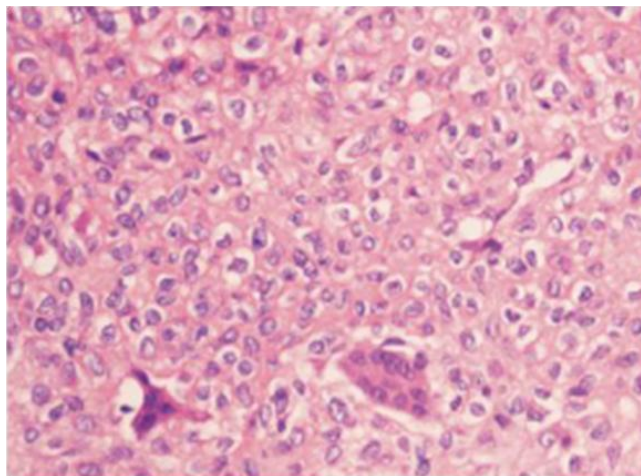


**Figure 1:** Photograph showing well-defined lytic defect in the proximal epiphysis of the right ulnar

## 3. Discussion and Results

Chondroblastoma is a benign, cartilage producing neoplasm usually arising in the epiphyses of skeletally immature patients. Chondroblastomas can be locally aggressive and rarely cause distant metastasis, despite histologically benign features. The synonyms of this rare tumor include calcifying giant cell tumor and epiphyseal chondromatous giant cell tumor. However, tumor epidemiology, etiology, location, symptoms, imaging, pathology, genetics, treatment, and prognosis are still controversial (Yang et al., 2012). Retrospective analyses are required to address these issues. Chondroblastomas can be locally aggressive and rarely cause distant metastasis, despite histologically benign features (Cho *et al.*, 2015). In the present study, histopathological examination of the surgically removed lytic bone sample consisting of sheets of polyhedral chondroblasts, well – defined cytoplasmic borders, moderate pink cytoplasm and hyperlobulated nuclei amidst a hyaline matrix and focal areas of congested blood vessels suggestive of chondroblastoma (Fig-2). The prognosis of chondroblastomas was good, with about 80% to 90% successfully treated by simple curettage with bone grafting

(Yang et al., 2012). Intralesional curettage is the treatment of choice. However, surgical procedures range from radiofrequency thermoablation with arthroscopic or CT guidance to wide resection and arthrodesis. (Tomic et al., 2010).



**Figure 2:** Photograph showing sheets of polyhedral chondroblasts, well – defined cytoplasmic borders, moderate pink cytoplasm and hyperlobulated nuclei.

#### 4. Conclusion

A rare case of Chondroblastoma is, in proximal epiphysis of the right ulnar in dog discussed here.

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