

OSTEOSARCOMA OF SCAPULA IN A GOLDEN RETRIEVER

H.T. Jain¹, S.V. Upadhye², V.M.Dhoot³, Gauri Khante⁴ and Vaishali D.Chipde⁵

^{1,5} Private Practitioner; ^{2,4} Veterinary Surgeon, TVCC and ³ Veterinary Physician, TVCC, Nagpur Veterinary College, Nagpur.

A Golden retriever male dog of about thirteen years of age was presented with the history of limping with left forelimb, swollen and tender shoulder joint on palpation. The radiograph revealed severe destruction of the anterior extremity of scapula, loss of trabecular pattern, formation of neoplastic bony spicule and soft tissue swelling at the surrounding area. The lateral radiograph of the thorax revealed metastatic lesions in the lung. Since the advanced malignant non-reversible changes were seen in the scapula along with the metastasis in the lung, the surgical intervention was not undertaken. The postmortem histopathological studies of the tumour confirmed the diagnosis of osteosarcoma.

Introduction

The osteosarcoma is the most common primary bone tumour in dogs (Goorin, 1985 and Lane, 1986). The common sites reported to be affected are proximal portion of humerus and ulna, distal portion of radius and tibia, proximal and distal portion of femur and costochondral junction (Hulland, 1965). The tumor has been reported in many species of domestic animals but it is most frequently encountered in dogs, particularly in larger breeds (Moulton, 1961). A case of osteosarcoma involving the scapula with metastatic lesions in the lung in a male Golden retriever dog is reported.

History and Clinical Examination

A Golden retriever dog of about thirteen years of age was presented with the history of limping with left forelimb since last 6 to 8 months with increasing tendency. The dog was offered palliative treatment with analgesics and steroids, from which the dog could get transient relief. However, the swelling around the shoulder was increasing gradually. The clinical

examination revealed physiological parameters viz. temperature and pulse within normal range. The auscultation of the chest revealed consolidation of lungs in mid thorax of both the lung fields. The examination of left forelimb revealed a swelling over the entire shoulder, which was tender on palpation. The plain lateral radiograph revealed severe destruction of the scapula, loss of Haversian system, formation of neoplastic bony spicule and soft tissue swelling around the bone (Fig. 1). Hence, the case was suspected for osteosarcoma of scapula. Another radiograph of thorax revealed metastatic lesions in both the lungs (Fig. 2). Considering the age, site of the lesion and metastatic lesion seen on radiograph, the prognosis of the case was unfavourable and thus the owner was reported accordingly and the dog was kept on symptomatic treatment with antibiotics, analgesics and fluid therapy whenever required. The dog died after about 10 days. The postmortem histopathological studies of the tumour and the lung lesions confirmed the tumour to be the osteosarcoma (Fig. 3).



Fig.1- Osteodestruction of Scapula



Fig.2- Metastatic Lesions in Lungs

Discussion

The osteosarcoma is the most common malignant skeletal neoplasm and is frequently encountered in dog particularly in larger breeds but they do occur in small breeds. Other primary

tumours of the bone include chondrosarcoma, fibrosarcoma and hemangiosarcoma (Dernell, 2003). The metastatic sarcomas and carcinomas can also occur within the appendicular skeleton.

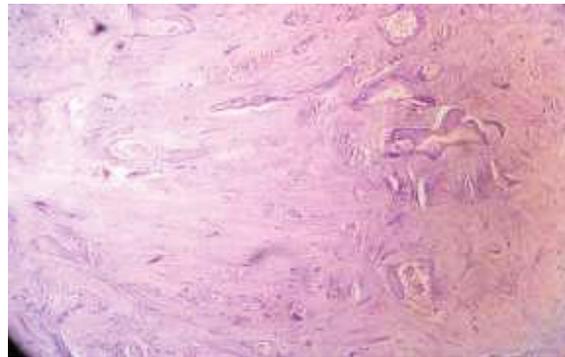


Fig.3- Osteosarcoma of Scapula (Histopathology)

Amputation of the affected limb is still the treatment of choice owing to the rate of recurrence postoperatively, nature of tumour and cost and side effects of chemotherapy. However, the amputation is feasible in lower limb bones since there is a chance to amputate the limb at the higher place. Sharda *et al* (1995) and Pillai *et al* (2007) reported osteosarcoma of radius and ulna in a Boxer dog, whereas Upadhye *et al* (2007) reported osteosarcoma of tibia in a Labrador dog. In all the cases, amputation was performed to save the life of the patient. The limb-sparing procedure can be considered and preferred to amputation for functional or cosmetic reasons. However, type of bone and location of lesion is an important factor that decide the procedure to be done. The exact etiology for the development of osteosarcoma is still not clear. However, Moulton (1961) reported the trauma as one of the important factors responsible for the initiation of the cause. In the present case, the history failed to reveal any cause. The subsequent exaggeration of symptoms such as increased lameness, reluctance to walk a long distance, increase in the swelling over the affected part, pain on palpation and the radiography of the limb and chest helped in suspecting the osteogenic malignancy. It has been reported that the osteosarcoma has tendency of metastasis to lungs or other bones and organs, similar metastatic lesions were observed in the present case. Considering the age of the dog, site of tumour, bone involved and metastatic lesion in the lung, surgical intervention was not

Indian Journal of Canine Practice

undertaken. The histopathological study confirmed the clinical and radiographic diagnosis.

References

- Dernell, W.S. (2003) Limb-Sparing Surgery for Dogs with Bone Neoplasia. In Text Book of Small Animal Surgery. III Edn., Edited by Douglas Slatter, Saunders, The Curtis Center, Independence Square West, Philadelphia, PA 19106 pp 2272.
- Goorin, A.M. (1985) Osteosarcoma: Fifteen years later. *N. Engl J Med.* 313:1637.
- Hulland, T. J. (1965) Neoplasm and infections of bone, Canine Surgery, First Archibald Edn., American Veterinary Publications, Inc. 114, North West Street, Wheaton, Illinois, Santa Barbara, California pp. 936.
- Lane, J.M.(1986) Osteogenic sarcoma. *Clin Orthop* 204:96.
- Moulton, J. E. (1961) Tumors of domestic animals. University of California press, California pp. 144.
- Pillai, S; Upadhye S. V.; Dhoot V.M.; Raghuvanshi D.S.; Lende S.R. and Deshpande R.R.(2007) Osteosarcoma of Radius in a Dog *J. Bombay Vet. Coll.* 15(1&2):166.
- Sharda R.; Ghosh R. C.; Roy S. and Jain M. (1995) Osteosarcoma involving Radius and Ulna in a boxer dog. *Indian Vet. J.* 72 (7): 737.

Upadhye, S.V.; V.M. Dhoot; Smita Pillai; D. S.
Raghuwanshi; S.B. Kawitkar and P.T.
Jadhao (2007). Osteosarcoma of tibia

in a Labrador dog-A case report. *Indian
J.of Field Veterinarians.Vol.2(1):62-63.*

