SURGICAL MANAGEMENT OF OSTEOSARCOMA IN A DOG

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Introduction
Approximately 85% of bone tumors in dogs are osteosarcomas. Osteosarcomas are highly aggressive tumors, characterized by painful local bone destruction and distant metastasis (spread to other organs). Osteosarcoma commonly affects the limbs of large or giant breed dogs, but can also occur in other parts of the skeleton (skull, ribs, vertebrae, and pelvis). The biological behaviour, prognosis, and treatment of bone tumors depend on tumor type, primary site (location), and extent of disease (stage). Therefore, various diagnostic tests such as radiographs, blood tests, and sometimes a biopsy are required to determine the most appropriate treatment. The signs associated with a bone tumor may be nonspecific. Tumors in the limbs often cause various degrees of lameness and pain, and a firm swelling may become evident as the tumor size increases. As the degree of discomfort increases, it can cause other signs such as irritability, aggression, loss of appetite, weight loss, sleeplessness, or reluctance to exercise.

Case history and Observations
A Nine year old Male Non descript dog was presented to the Veterinary College Hospital, Bangalore with a history of lameness and a huge swelling on the left hind limb since 4 months. (Fig 1) The animal evinced a lot of pain on palpation of the left hind limb with non weight bearing lameness. Radiographs of the left femoral and the tibial region revealed severe osteolytic changes with a sun-burst appearance in the left tibia characteristic of osteosarcoma (Fig 2). A lateral chest radiograph revealed radiodense masses suggestive of metastasis.

![Fig. 1 – Huge swelling on the left femoral region](image1)

![Fig. 2 – Radiographic evaluation showing indications of osteosarcoma](image2)

Treatment and discussion
Dog was prepared for aseptic surgery and premedicated with Atropine sulphate @ 0.04 mg/kg body weight subcutaneously and Triflupromazine hydrochloride @ 1 mg/kg body weight intravenously. After 10 minutes, animal was anesthetized with 2.5% Thiopentone sodium at dose rate of 25 mg/kg body weight given to effect. An amputation of the left hindlimb was performed. (Fig.3 and Fig.4).

Post-operatively, Ceftriaxone (20mg/kg) was given for 7 days intramuscularly BID. Skin sutures were
removed on 10th post-operative day and animal recovered uneventfully.

![Fig. 3 – Amputaation of hind limb](image1)

![Fig. 4 – Amputated left hind limb](image2)

Amputation is almost always well tolerated by the patient – dogs with 3 legs can do virtually everything that 4-legged dogs can do. The surgery serves two purposes; it removes the primary tumor, which is necessary for cancer control, but it also removes the source of pain, and may therefore dramatically improve quality of life. Amputation is usually curative with regard to the local tumor, except in cases of proximal femoral or proximal humoral lesions with extensive soft tissue involvement, where stump recurrence can occur. Surgical excision is indicated for lesions of the flat bones as well, where practicable. The most common cause of death is lung metastasis (spread), and amputation alone results in average survival times of only approximately 4 months.

A case of osteosarcoma and its successful management with amputation is reported.

**References:**
