Surgical Management of Soft Tissue Sarcoma in a Dog

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Soft tissue sarcomas (STS) are mesenchymal tumors arising from connective tissue elements and are grouped together based on a common biologic behavior. The most common histologic types include malignant peripheral nerve sheath tumors (schwannoma and neurofibrosarcoma) “hemangiopericytoma,” fibrosarcoma, and malignant fibrous histiocytoma. These tumors are relatively slow growing yet locally invasive with a high rate of recurrence following conservative management (Dernell et al., 1998). Fourie et al., (2011) reported Soft tissue sarcomas are a group of malignant cancers that arise from the skin and subcutaneous connective tissues, such as fat (liposarcoma), muscle (rhabdomyosarcoma, leiomyosarcoma), cartilage (chondrosarcoma), fibrous connective tissue (fibrosarcoma), nerves (schwannoma, malignant peripheral nerve sheath tumor, neurofibrosarcoma) and the “pericytes” of small blood vessels in the subcutis (hemangiopericytoma). These tumors are often considered collectively because of their similarity in clinical behavior. As such, local regrowth of the tumor is common after conservative surgical removal. Soft tissue sarcomas are graded as low, intermediate, or high grade. Most soft tissue sarcomas are low to intermediate grade, and have a relatively low chance of spreading to other places (metastatic rate of less than 25%). High grade sarcomas have a higher potential for metastasis (25-40%).

A six year old dog was presented to the Veterinary College Hospital, Bangalore with a history of swelling over the ventral aspect of the neck for last one month which was refractory to medical treatment. On physical examination animal was having pyrexia with 103.8°F, elevated heart rate and respiratory rate. On physical palpation hard mass was felt, not adhering to cervical bone suggestive of tumour (Fig.1). It was decided for surgical excision under general anesthesia.

Dog was prepared for aseptic surgery and premedicated with Atropine sulphate @ 0.045 mg/kg body weight subcutaneous, pre-emptive analgesia with pentaocin @ 1 mg/kg intramuscular, sedation with trifluperamide HCl @ 1 mg/kg intravenous. After 10 minutes, anaesthesia was induced with 2.5% thiopental intravenously and maintained under halothane oxygen mixture.

Surgical site was painted with povidone iodine. Two curvilinear incisions were made on the mass in such a way that both incisions were touched on each side to make it crescent shaped. Mass was separated from its attachment by blunt dissection (Fig.2). All bleeding points were arrested by ligation with chroic catgut size-0. Subcutaneous suturing was done with chroic catgut size-0 in simple continuous manner and skin was opposed with linenx size-0 in horizontal mattress.

The excised mass upon examination was hard and weighing about 200gms which was preserved in neutral buffer solution and sent for histopathology which was confirmed as soft tissue sarcoma. Post-operatively, ceftriaxone (20mg/kg) was administered for 7 days systemically. Skin sutures were removed on 10th post-operative day and Animal...
Ehrhart, N. (2005) reported Chemotherapy is often recommended as an adjunctive treatment for high-grade soft-tissue sarcomas because of their higher metastasis rates when compared to low-or intermediate-grade soft-tissue sarcomas but in the present case chemotherapy was not advised and over a period of nine month follow-up, there was no reoccurrence. Gandhi and Vivekanand et al., (2012) reported rhabdosarcoma at maxillofacial region in two dogs and stated that both dogs were subjected to surgical excision but died within two months after the surgical excision.

References