FOREQUARTER AMPUTATION (SCAPULOThorACIC DISARTICULATION) IN A DOG

A.K. Sharma*, Saurav Singh, Laxmi Kumari, Chandrakala and Pankaj Kumar

*Assistant Professor, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Birsa Agricultural University, Kanke, Ranchi-834006, Jharkhand, India.

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A seven years old non-descript dog was presented with history of automobile accident occurred one month before. Gangrene was developed around distal scapula and proximal humerus which was not responding with medical treatment. Hence, forequarter amputation was performed under general anaesthesia with uneventful recovery. Keywords: Forequarter amputation, Gangrene, Scapulothoracic disarticulation, Scapulectomy.

A forequarter amputation was a radical surgical procedure that includes the entire extremities with scapula (Fossum, 2007). Forelimb amputation is a salvage procedure performed for traumatic injuries (eg. irreparable fractures, soft tissue wounds), severe neurologic or ischemic lesions confined to the forelimb (eg. brachial plexus avulsion), certain congenital deformities, invasive neoplasia, and uncontrolled infection. Caudal partial scapulectomy has been used for the treatment of osteosarcoma in a dog as a limb sparing procedure (Zemer et al., 2012). The present communication deals with successful amputation of forequarter in a dog.

Case history and Observations

A seven years old non-descript dog weighing 20 kg was presented to Clinical Complex, Ranchi Veterinary College, Ranchi with history of automobile accident occurred one month before. The dog was treated by local Veterinarians and they had immobilized the effected leg since last 10 days yielding no recovery. The case was further deteriorated with development of gangrene in the affected limb with involvement of distal scapula and proximal aspect of humerus and not responded even to antibiotic treatments. Clinical observations made were heart rate (150/min), respiration rate (40/min) and rectal temperature (102.6 °F) whereas; Hb, PCV, TLC and DLC as well as ALT, AST, BUN and creatinine were within normal range. Since gangrene was progressing day by day, forequarter amputation was planned to prevent the gangrene and save the life of animal.

Treatment and Discussion

Twelve hours prior to surgery, the dog was stabilized with administration of Ringer lactate @ 300 ml, amoxicillin – salbactum @ 300 mg and meloxicam @2 ml. Immediately before surgery, the dog was given amoxicillin – salbactum @ 300 mg and tramadol @ 2mg/kg bwt. A mixture of xylazine @ 1mg/kg bwt and ketamine @ 2mg/kg bwt was administered intramuscularly 15 min after atropine sulphate @0.04 mg/kg bwt. Maintenance of anaesthesia was done by intermittent administration of ketamine @2 mg/kg bwt and diazepam @ 1mg/kg bwt in combination in the ratio of 2:1. Dog was positioned on operative table, keeping right fore limb upper side. Skin incision was given longitudinally over scapular spine up to the proximal third portion of humerus then continued around the fore limb at this level. Trapezius, omotransversarius and rhomboideus muscles were transected from their attachment to expose the medial surface of scapula and seratus ventralis muscle. Seratus ventralis muscle was transected to expose the brachial plexus and axillary artery and vein. Brachial plexus was transected after transfixation of artery and vein. Then other muscles viz. brachiocephalicus, deep and superficial pectoral and latissimus dorsi muscles were transected from humeral insertion to make free from all attachment for removal of limb along with scapula. After removal, the brachial plexus and blood

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vessels were covered with approximation of muscle bellies with PGA No. 0 (Fig.1). Skin was sutured with silk no. 1 with stent bandage.

Fig. 1: Appearance of operative site after forequarter Amputation

Dog made uneventful recovery without complication (Fig.2). The technique described here may be preferred because it readily exposes major nerves and vessels, does not require bone cutting, and results in a cosmetic wound, as no prominent scapula remains. This procedure also carries lower risk for postoperative pressure necrosis because scapular/bony prominences (eg, the acromion) are removed. Though Raske et al. (2015) have reported there may be short term complication following pelvic or thoracic limb amputation in cats and dogs were typically minor and resolved after treatment. This is also the preferred technique to remove neoplasia, particularly lesions located in the proximal forelimb, because it allows resection with extensive surgical margins.

It is concluded that the forequarter amputation can be opted in gangrenous condition affecting upper extremities with involvement of proximal humerus and distal portion of scapula. This is also applicable in malignant tumors affecting the scapula a whole or part of scapula. The animal after amputation was presented with good functional outcome.

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References