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Surgical Management of Capped Elbow Condition in a Female English Mastiff Dog A Case Report

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Abstract: **A four-months-old female English Mastiff dog was presented at Department of Surgery & Radiology, C.V. Sc. & A.H., Anand with a history of golf-ball sized growth over right elbow and observable lameness. The clinical approach included history, clinical examination, radiography, surgical management along with supportive medication. Growth over right elbow was removed surgically. Skin sutures were removed 10th day post-operative with observable healing. Furthermore, the dog was observed for five consecutive days. Dog recovered uneventfully 15th day post-treatment.**

Keywords: **Capped elbow, Radiography, Surgical Management.**

I. INTRODUCTION

Joint affections in dogs are frequently encountered entities at veterinary clinics and are responsible for clinical lameness. Canine elbow joint is surrounded by olecranon bursa just beneath the skin to facilitate smooth gliding of the skin over the olecranon. The elbow is entirely surrounded by brachial and antebrachial fasciae along with the superficial antebrachial fascia on the medial aspect [1]. 'The Capped Elbow', also known as hygroma or elbow seroma or olecranon bursitis, is a fluid-filled cavity surrounded by a dense fibrous connective tissue due to inflammation over the olecranon bursa. The growth becomes harder with lesser amount of fluid if not removed for longer duration [2]. Underlying causative factor for development of capped elbow in dogs is accumulation of fluid due to repeated trauma to soft tissues eventually becoming encapsulated by fibrous tissue lined with a synovial membrane [3, 4]. Equine and bovine species are more frequently affected with this condition [5]; however, few reports are available on occurrence of capped elbow in canines [3]. Reports suggest that capped elbow is more frequently reported in young dogs of large breeds before a protective callus forms on the bony prominence [2, 3]. Among various large breeds of dog, Great Dane and English Mastiff breeds are more susceptible to development of capped elbow condition [6]. Present case report described surgical management of capped elbow condition on right elbow of a 4-months-old female English Mastiff dog (Figure-01).

Figure-01: English Mastiff with Capped Elbow Condition

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II. CASE DETAILS

The case was presented with a golf-ball sized growth over right elbow in a 4-month-old female English Mastiff dog from approximate period of 2 months. The dog was represented with clinical lameness. History did not reveal any observance of direct trauma to the elbow. Rectal temperature, heart rate and respiratory rate on clinical examination were 102.1°F, 81/minute and 30/minute, respectively within normal range. Palpation of the affected extremity revealed fluctuating golf-ball sized fibrous mass over right abdomen with presence of lesser amount of fluid and without any external damage. Furthermore, diagnostic fine needle aspiration from the growth was carried out and a few drops of transparent fluid were removed. The dog was subjected to medio-lateral radiograph which revealed golf-ball sized opacity over right olecranon process. There was no evidence of presence of fluid or ossification over the area (Figure-02). Giving due consideration to the type of growth, surgery was planned accordingly.

Figure-02: Radiograph showing Capped Elbow Condition

Radio-opaque mass on radiograph over olecranon process of right foreleg

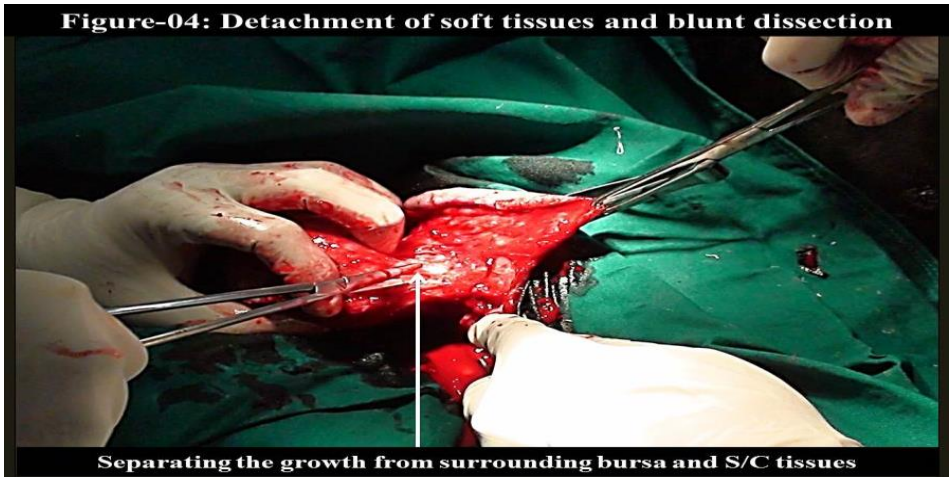
Figure-03: Incision over aseptically prepared surgical site

Elliptical incision over the growth

III. SURGICAL MANAGEMENT

The site of surgery was shaved and prepared aseptically. The dog was injected with preanesthetic Atropine sulphate @ 0.04 mg/kg body weight intramuscularly followed by sedation with Diazepam @ 0.2 mg/kg body weight intravenously and dissociative anesthetic Ketamine hydrochloride @ 10 mg/kg body weight. Intravenous fluid therapy was initiated prior and continuous infusion rate for dextrose normal saline was maintained during the period of surgical management. Surgery was performed in lateral recumbency. Anesthetic monitoring included frequent examination of palpebral reflex and use of pulseoximetry. An elliptical incision (Figure-03) was made along the posteriolateral aspects of the point of elbow and over the growth area. Lignocaine hydrochloride was used judicially as local anesthetic. Olecranon bursa was then gently separated from its soft tissue attachment by blunt dissections without rupturing it or injuring the joint capsule (Figure-04).

Figure-04: Detachment of soft tissues and blunt dissection



Separating the growth from surrounding bursa and S/C tissues

Artery forceps and pressure gauzes were used to control hemorrhage at the site. A golf-ball sized fibrous tissue mass (Figure-05) was removed from the site. Excess skin was trimmed off and the subcutaneous tissues were sutured by simple continuous pattern of sutures using chromic catgut no. 1. External skin incision was sutured using braided silk no. 1 and dead space was obliterated. Antiseptic was applied over the suture site and right foreleg was immobilized by use of bandages from 3" above the level of surgical site to paws (Figure-06). Post-operative administration of medicines included ceftriaxone @ 10 mg/kg body weight for 6 days, non-steroidal anti-inflammatory drug for pain management meloxicam @ 0.2 mg/kg body weight for 3 days intramuscularly. Owner was advised to monitor and restrict the movement of the affected limb of his pet. External skin sutures were removed 10th day post-treatment with appropriate wound healing without complications. Further monitoring of the dog was carried out by routine check-ups for 5 consecutive days. The dog recovered uneventfully with no observable lameness on progression 15th day post-operatively.

Figure-05: Golf-ball sized mass and external skin sutures

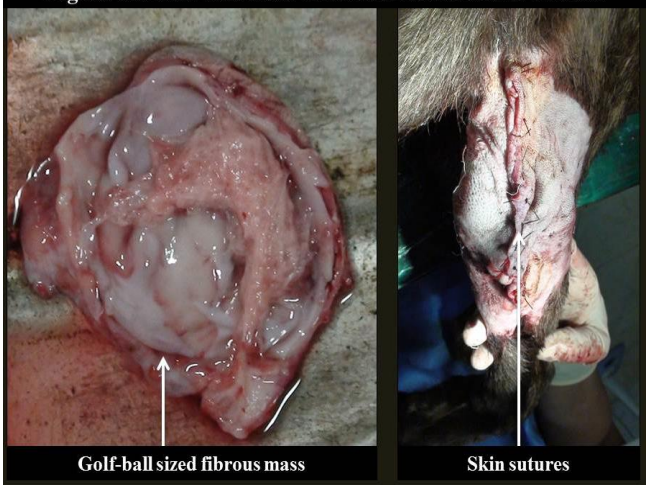


Figure-06: External immobilization by use of bandage

IV. SUMMARY

English Mastiff is classified as a large breed of dog and is more prone to capped elbow condition at a younger stage of life. Such cases in acute case can be managed with conservative approaches; however, surgical management is safe for effective treatment of capped elbow condition particularly for chronic fibrous forms. As the mass was of chronic nature with fibrous tissue proliferation, surgical management was considered and the dog recovered uneventfully 15th day post-operatively. Furthermore, continuous monitoring and timely post-operative management of the surgical site reduced the chances of complications (e.g., wound dehiscence) in this case.

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