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# A Management of rarely observed scapula fracture by bone plating and wiring in Gir calf

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**Abstract:** *A two and half month old female Gir calf was presented with the history of traumatic injury before 12 hours. Calf was presented with the inflammation and devoid of weight bearing on affected left limb. There was pain on palpation and crepitation sound at scapula revealed fracture, which was confirmed by lateral view radiography. Bone plating and wiring was carried out to provide immobilization of fractured scapula under sedation along with local infiltration anaesthesia. The calf was recovered uneventfully after 30 days and bone plate removed after 45 days.*

**Introduction:**

Fracture is break in continuity of hard tissue, which is very commonly encountered condition in veterinary field, while bone fractures were common orthopedic problems encountered in calves. The incidence of fractures in cattle varies according to the breeding environment of each calf. The most common causes of fractures were assisted childbirth trauma, especially in dystocia or incorrect manipulations during dystocia and limb fractures were also common in farm animals subsequent to trauma during dystocia or handling. Among them scapular fracture was very rare. A scapular fracture is a type of shoulder injury and typically does not occur in the calf (Mohiuddin *et al.*, 2018)[3].

**Case history:** A two and half month old female Gir calf was presented with the history of traumatic injury before 12 hours. Calf was presented with mild inflammation and devoid of weight bearing on affected left limb (Fig.1).

**Diagnosis:**

The physical palpation revealed pain on palpation and presence of crepitation sound at scapula revealed fracture at scapula in left forelimb and confirmatory diagnosis was carried out by lateral view radiography, which revealed transverse fracture from lower midshaft of scapula.

**Surgical management of fracture:**

Treatment options and prognosis were affected by concurrent injuries, disease status, or nutritional status of the patient (Jean and Anderson 2014)[2]. Scapula fracture in Gir calf was transverse and looking to the flat scapula bone, plating followed by wiring was planned under sedation of xylazine hydrochloride @ 0.05mg/kg body weight. The surgical site was cleaned through clipping the hair and scrubbing. Local anaesthesia 2% lignocaine hydrochloride was infiltrated at fracture site, before placing skin incision at fracture site. Normal saline fluid therapy was given through intravenous route to provide essential medicines along with management of hypovolemic shock during surgery. Bone platting was carried out on transverse ridge of scapula by placing 2 screws up and down to the fracture site, where as orthopaedic wire fixation was applied on

long and flat scapular surface. Plating provides the most rigid form of internal fixation in ruminant orthopedics (Nuss, K. 2014)[4]. Streptopenicillin antibiotic powder was infiltrated at the operating site to avoid bacterial contamination before closing the site. Then site was sutured with absorbable suture material vicryl 2-0, followed by 2-0 ethilon skin sutures. Surgical site was cleaned by using hydrogen peroxide solution and then thin layer of cotton pad soaked with tincture benzoin solution was applied to avoid further bleeding from sutured incision site. Normal alignment of fracture fragment was confirmed by post operative radiography (Fig.3).

**Post –operative care and management:**Post operative medicinal management includes inj. penicillin @ 15,000 IU/kg along with inj. Pheniramine meleate @ 1 mg/kg and inj. Meloxicam

Fig.1: Scapula fracture

Fig.2: Surgery (plating) performed under C- arm

Fig.3: Post- operative radiograph of bone

Fig.4: Post-operative image of recovered calf after two

@ 0.5 mg/kg body weight was administered intramuscularly for 7 days. Velpeau bandage was applied in affected limb to provide rest for 12 days post operatively. Skin sutures were removed on 12th day. The owner was advised to massage the operated limb to accelerate blood circulation and nerve function.

**Result:**

The calf was started normal weight bearing on its affected limb after 1month (Fig.4). walking after 1 month. Bone Plate and orthopaedic wire was removed after 1.5 month. No any post-operative complications could be seen after surgery.

**Discussion:**

Management of scapula fracture was difficult through internal fixation, due to its flat and thin surface, so that even small screw depth also leads to penetrate thoracic cavity and may damage respiratory organs, but thick transverse ridge provides plating space to fix a transverse fracture of scapula and we gain better bone healing with minimum complications (fig.2). Bone plating procedure was a safe method for stabilizing complete fractures in calves (Alam *et al.*, 2014)[1].

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