

Case Study

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## Surgical Management of 35 kg Chronic Carpal Hygroma/Abscess in Sahiwal Cattle

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### ABSTRACT

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The report describes a case of unilateral carpal hygroma on left forelimb weighing 35 kg in a 5 years old Sahiwal cattle weighing 298 kg. The swelling was present dorsal to the carpal joint and gradually increased in size from last 1.5 years. On palpation the swelling was soft at the base and hard cranially. Aspiration was done at the most caudal aspect of the growth revealed pyogenic discharge. The stab incision was made to drain the pus. Growth was resected under IVRA after applying tourniquet proximal to carpal joint with the animal in lateral recumbency. The whole pyogenic membrane was peeled off without exposing the joint capsule and skin sutures were applied to control the bleeding after flushing it with normal saline. The pressure bandaging was done using crepe bandaging. The animal recovered uneventfully gaining its normal gait.

### Introduction

The carpal hygroma is a very common condition in cattle of traumatic origin in which there is a localized swelling over the dorsal aspect of carpal joint involving the skin, a small subcutaneous precarpal bursa and loose subcutaneous connective tissue.

Repeated trauma due to lack of bedding on hard floors and narrow or short stalls, which restrict free movement of the animal are predisposing factors. Due to repeated trauma, the skin gets thickened and a mass of

thickened tissue and cellulitis surrounds the swelling containing a small quality of fluids or pus. The cavity of bursa may be simple, bilocular or multilocular (Tyagi and Singh, 2006). Surgical excision is useful to treat the carpal hygroma in chronic cases (Chhatpar, *et al.*, 2013).

Bovines with bilateral hygromatous swelling of knees should be examined for brucellosis especially those had history of abortion after fifth month of pregnancy (Blood *et al.*, 1983). The most common cause of bursitis is direct trauma. Severe trauma leads to acute bursitis,

whereas continuous and repeated trauma leads to chronic bursitis. Sometimes, the bacterial infection and toxemia also results in development of bursitis (Fathy and Radad 2006).

A 5 year old Sahiwal cattle weighing 298kg was presented to the teaching veterinary clinical complex with the history of swelling over the/ dorsal to carpal joint since 1.5 years in left forelimb (Fig. 1). No history of abortion and ROP was present. According to the owner initially it was small swelling over the carpal joint which was treated by the local vet, but animal doesn't respond to the treatment and it grows steadily over a period of time to a 35 kg mass. On physical examination, it was found that the swelling was soft caudally i.e. towards carpal joint and cranially it was hard and keratinized. On clinical examination mucous membrane was found to be slightly pale and temperature was 102.4° F. Other physical parameters were within normal range and haemato-biochemical examination revealed mild anemia. Aspiration is done at most distal end of swelling revealed pyogenic discharge. The case was diagnosed to be chronic hygroma/abscess.

Animal was restrained in the right lateral recumbency. Pre-operative inj. AC-Vet 4.5g and inj. meloxicam @0.2mg/kg was given intravenously. Intravenous fluid line was maintained and animal is sedated by giving inj. Xylazine @ 0.025mg/kg intravenously. Under mild sedation tourniquet was applied proximal to the carpal joint and distal to the elbow joint. The IVRA technique for local anaesthesia was used by giving 20 ml of the 2% lignocaine after removing 20 ml of blood from the cephalic vein. Surgical site was scrubbed. Stab incision was given at the most distal end and whole of the pyogenic material was drained out. After drainage, a circumferential incision was made to resect

the growth out. The whole pyogenic membrane was peeled off without exposing the joint (Fig. 2). The cavity was flushed with warm saline. On loosening of the tourniquet bleeding from the major vessels was started which was temporarily controlled by applying artery forceps. After final flushing of the surgical site with warm saline solution mixed with antibiotic Ampicillin, horizontal mattress suture pattern was applied using silk number 2 on the skin and loosening the tourniquet in the meantime. The suture line was bandaged using magnesium sulfate. The immobilization of the carpal joint was done using crepe bandage and caudal splint to avoid the pressure on the suture line..

Post-operative care included antibiotics inj. Ampicillin and Cloxacillin @ 15mg/kg twice daily for 5 days and inj. Gentamicin @ 4mg/kg twice daily for 5days, and inj. Meloxicam @ 0.2mg/kg Once Daily for 3days. Owner was advised to keep the animal in stall confinement for at least 10 days. 3 day post-op revealed no complications with stable suture line. Animal started bearing weight completely on the operated limb within a week with no post-operative complication. Daily dressing of the suture line was advised with 0.1% Povidoneiodine solution and fly repellent after one week of the first post-op. telephonically follow up upto one month postoperative revealed the animal to be healthy.

The recovery in such cases has been reported to be successful (Lemay, *et al.*, 2000; Chhatpar, *et al.*, 2013; Piguet, *et al.*, 1997). Regarding treatment, the surgical excision of olecranon bursitis and presternal bursitis in 10 out of 11 cases and 21 out of 26 cases of bovines, respectively had a good outcome (Fathy A, Radad K. 2006).The surgical excision was successful in 16 out of 17 cases of precarpal bursitis in cattle (Piguet *et al.*, 1997).



**Fig.1** Photograph showing the clinical presentation of the Sahiwal cow with swelling at the left carpal (red arrow)



**Fig.2** Photographs showing peeling off pyogenic membrane (red arrow) without exposing carpal joint cavity



**Fig.3** Photograph showing 3 days post-operative stable suture line and necrosed skin (red arrow) which sloughs off on it's own

The basic difficulty in surgical excision of hygromatous swelling at knee joint of this big size is to control and manage bleeding. This difficulty was achieved by rapid suturing and using mattress suture pattern, and pressure bandaging. The IVRA technique for local anaesthesia in patients undergoing surgical excision of carpal hygroma is very rewarding and easy to apply. The immobilization of the carpal joint with pressure bandaging and caudal splint is very beneficial for the stability of suture line and have better prognosis.

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