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# Surgical excision of bilateral interdigital fibroma in a crossbred HF cow – A case report

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**Abstract**

*A five year old HF cross cow was presented to Department of Veterinary Surgery and Radiology with a history of protruded mass in both the hind limbs which were ulcerated and infested with maggots. The condition was diagnosed as bilateral interdigital fibroma (IDF) which was successfully managed by surgical excision under general anaesthesia. The fibroma was excised completely using electrosurgery and bleeding points were cauterized using cryocautery apparatus. Proper skin apposition and claw immobilisation followed by surgical removal lead to uneventful recovery.*

**Keywords**: *Interdigital fibroma, lameness, cryocautery*

Lameness is considered as a major cause of lowered productivity leading to vast economic losses in dairy production systems. It poses serious economic losses to producers due to reduced milk yield (Amory *et al.,* 2008), increased reproductive intervals (Garbarino *et al.,* 2004), and increased early culling (Booth *et al.,* 2004). Some of the commonest foot conditions causing lameness in cattle are interdigital dermatitis, digital dermatitis and laminitis (Weaver, 2000), sole abscesses, sole ulcer, vertical and horizontal hoof wall cracks, and interdigital fibroma (Welker, 1993). Interdigital fibroma is formed due to proliferative reaction of skin and subcutaneous tissues in interdigital cleft which is characterized by a fold of fibrous tissue hanging down into interdigital space (Collick *et al*., 1997), the routinely adopted treatment for interdigital fibroma is surgical excision. The present report records surgical excision of bilateral interdigital fibroma in a cow under general anaesthesia.

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**Fig.1.** Interdigital fibroma

**Fig.2.** Animal under general anaesthesia

**Fig.3.** Achieving haemostasis using cryoapparatus

**Fig.4.** Immobilisation of claws

**Fig.5.** Excised fibroma

**Fig.6.** Protective bandage

Cross bred Holstein Friesian cow aged five years was presented with complaint of chronic moderate lameness on both hind limbs and maggot infestation in the interdigital space. On observation the cow was active and alert. The vital parameters such as rectal temperature, heart rate and respiration rate were well within normal physiological limits. Detailed examination of hoof revealed hard ulcerated interdigital fibrous mass infested with maggots protruding through the interdigital space in both hind limbs (Fig. 1). Based on history and clinical symptoms, the condition was diagnosed as interdigital fibroma and surgical treatment was suggested.

Surgical excision of interdigital fibroma was carried out under general anaesthesia. Pre operatively, the animal was fasted for 24 hours and water was withheld for 18 hours. Inj. butorphanol and xylazine were administered intravenously as premedicants

at the dose rate of 0.05 and 0.02 mg/kg body weight respectively. After achieving adequate sedation, the animal was controlled in left lateral recumbency on the operation table and anaesthesia was induced by administration of inj. ketamine and midazolam intravenously at the dose rate of 4 and 0.2 mg/kg body weight respectively and maintained using isoflurane (2-3 per cent) in 100 per cent oxygen (Fig. 2). The surgical site was prepared aseptically. A tourniquet was applied above the fetlock joint to achieve haemostasis. The fibroma mass was grasped using an Allis tissue forceps and an inverted 'V' shaped incision was given on the dorsal interdigital space and continued towards the plantar interdigital space in a wedge shaped manner. The fibroma was completely excised using electrocautery (Monopolar probe at 95 watts) and additionally the bleeding was arrested using cryocautery probe (Cryogen – Nitrous oxide gas) (Fig. 3). The remaining skin was apposed using nylon in simple interrupted suture pattern. Two holes were drilled through the hoof wall of both the claws slightly abaxial to the toe, a 22 gauge stainless steel suture material was passed through the holes and the claws were brought together by tightening the suture material to prevent splaying. A protective compression bandage was applied using cohesive bandage (Plasto®) to prevent bleeding and further contamination (Fig.6). The same procedure was followed in the other limb also. Post operatively, inj. streptopenicillin (5 mg/kg body weight) and inj. meloxicam (0.2 mg/kg body weight) were administered intramuscularly for five and three days respectively. The skin sutures were removed on 12$^{th}$ post-operative day. The animal had an uneventful recovery and regained normal gait during ambulation.

Foot lesions that lead to lameness were categorized as infectious and noninfectious according to etiology (Potterton *et al.,* 2012). Interdigital fibroma/hyperplasia is caused by a proliferative reaction of the digital skin due to chronic irritation (Fubini and Ducharme, 2004). Chronic interdigital dermatitis, poor hoof trimming or bad housing conditions could be the cause for occurrence of interdigital fibroma (Nuss, 2009). Predisposing factors are spreading of the claws and poor ligament development, stretching of the interdigital skin and fibrosis of the subcutis (Fubini and Ducharme, 2004). Excision of bilateral interdigital fibroma under general anaesthesia provided absolute control of pain and movement during the surgery. Early healing of surgical wound was noticed in animals which underwent excision of interdigital fibroma by thermocautery followed by conventional surgical excision by Gosai *et al.* (2013). Recurrence of fibroma was not observed in animals that underwent surgery by thermocautery and cryocautery method (Gosai *et al.*, 2013).

**Summary**

Successful surgical excision of bilateral interdigital fibroma under general anaesthesia in a crossbred HF cow is reported.

**Acknowledgement**

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**Conflict of interest**

All authors declare that they have no conflicts of interest.

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