

*Clinical Article*

**SUCCESSFUL SURGICAL MANAGEMENT OF BILATERAL  
INTERDIGITAL FIBROMA OF FORELIMBS IN A GIR COW**

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**Abstract:** A Gir cow aged between 7-8 years was brought to the Department of Veterinary Surgery and Radiology with history of lameness and tumorous masses between the claws of both forelimbs. Clinical examination revealed that mass had eroded, ulcerated and infected with maggots leading to more swelling and pain. Based on the history and clinical symptoms, the condition was diagnosed as bilateral interdigital fibroma (IDF) which was successfully managed surgically in both forelimbs. Post-operative care was done by using Intacef (3 gm), Meloxicam (10ml), Dexona (5 ml) and Tribivet (10ml) alongwith antiseptic dressing with betadine solution and silversulfadiazine ointment for 5 days. Animal showed uneventful recovery. No recurrence of fibroma was reported upto period of 6 months.

**Keyword:** Gir cow, Hyperplasia, Interdigital fibroma, Lameness.

**Introduction**

Lameness is a major cause of lowered productivity leading to vast economic losses in dairy production systems. The majority (88-92%) of lameness in cattle involves the structures of the foot (Weaver, 2000); specifically, one or both of the component digits of the bovine foot located below the level of the fetlock (ankle). Some of the commonest foot conditions causing lameness in cattle are interdigital dermatitis, digital dermatitis, interdigital phlegmon and laminitis (Weaver, 1993), sole abscesses, sole ulcer, vertical and horizontal hoof wall cracks, and interdigital fibroma (Welker, 1993). The most prominent signs presented by these foot conditions are interdigital wounds and swelling, digital swelling, swelling and reddening at the coronet, protruding granulation tissue through cutaneous or horny defects and draining in parts of the digit (Farrow, 1985). Interdigital hyperplasia (corns, fibroma) is a proliferative reaction of the skin and subcutaneous tissues in the interdigital cleft made of fibrous connective tissue and characterized by a fold of fibrous tissue hanging down into the interdigital space (Collick *et al.*, 1997). One or more feet may be involved but the hind feet are more commonly affected. Beef breeds, especially bulls, have a higher incidence of corns but the frequency in dairy cattle is on the increase. The fibroma can extend from the dorsal to

the palmar/plantar end of the cleft, while filling the entire gap between the claws. Hereditary predisposition is suspected. Spreading of the toes and other conformational problems probably contribute to irritation of the interdigital skin. A large mass can cause pain and the fibroma may become eroded, ulcerated and infected leading to more swelling. The severity of lameness varies, depending upon the size of the mass, from absent to severe. Size of the corn and degree of lameness are guides in determining whether or not removal is necessary. This paper deals with successful surgical management of bilateral interdigital fibroma of forelimbs in a Gir cow.

### **Case history**

A Gir cow aged between 7-8 years was brought to the Department of Veterinary Surgery and Radiology with history of lameness and tumours masses between the claws of both forelimbs. Clinical examination revealed that mass was hard, nodular, fibrous which protruded between the claws (fig. 1). It was ulcerated and infected with maggots leading to more bleeding, swelling and painful. Based on the history and clinical symptoms, the condition was diagnosed as bilateral interdigital fibroma.

### **Treatment**

The animal was sedated with xylazine @ 0.1 mg/kg i/m and local anaesthesia was achieved by infiltration of 2% lignocaine hydrochloride at the base of growth. The tourniquet was tied above hoof and the site was prepared for aseptic surgery. Then grasp the protruding mass with allis tissue forceps and the entire mass was removed in wedge shaped pattern by making two longitudinal incisions, leaving small margin of skin by the axial coronary band. The protruding interdigital fat was also removed with blunt dissection avoiding the distal cruciate ligament. Haemorrhage was checked by ligation and use of tincture benzoin. After applying antiseptic powder, the two claws were bandaged together tightly. The bandage was further protected by placing polythene bag. Post-operative care regime was done by using Intacef (3 gm), DNS (1000 ml), Dexona (5 ml) and Tribivet (10ml) were given intravenously and Meloxicam (10ml) intramuscularly for 5 days. Antiseptic dressing with betadine solution, silversulfadiazine ointment and topicure spray was done on alternate days for 3 weeks. Animal showed uneventful recovery. No recurrence of fibroma was reported upto period of 6 months.

### **Discussion**

Interdigital fibroma / hyperplasia is a proliferative reaction of the digital skin (Fubini and Ducharme, 2004). The thinking is that fat in this area pushes down to cause an outpouching

of the interdigital connective tissue. Skin overlying this area thickens and projects downward. This protruding skin may become infected and necrotic. Usually the greatest mass is found in the middle or anterior third of the interdigital space. Predisposing factors are spreading of the claws and poor ligament development (Fubini and Ducharme, 2004), stretching of the interdigital skin and fibrosis of the subcutis. Fibroma mainly develops in response to chronic irritation between the claws. Histologically, it consists of multiple papilliferous epidermal ridges covered and bridged by abundant amount of keratin. There are increased amounts of stratum granulosum and stratum spinosum of epidermis. Similar findings were recorded from the histopathological picture in present case. Chronic interdigital dermatitis and chronic trauma such as poor hoof trimming or bad housing conditions can increase the chances of the occurrence of interdigital hyperplasia as well (Nuss, 2009). Interdigital hyperplasia doesn't necessarily cause lameness, only when the hyperplastic tissue is large enough to be oppressed between toes and floor (Nuss, 2009). Interdigital hyperplasia can be removed surgically. Similarly, the present case describes surgical management of bilateral interdigital fibroma of forelimbs in a Gir cow and no reoccurrence of fibroma was reported upto last 6 months.

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**Fig. 1.** Showing bilateral interdigital fibroma of forelimbs in a Gir cow