

AABP FACT SHEET

INTERDIGITAL HYPERPLASIA (CORN)



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Interdigital hyperplasia (interdigital fibroma, corn) is a firm, fibrous mass that protrudes from the interdigital space of the feet of cattle. They occur sporadically in all breeds of beef and dairy cattle, and there may be a hereditary predisposition in some breeds. Interdigital hyperplasia in multiple feet of young animals should be suspected to be hereditary in nature.

Pathogenesis

Interdigital hyperplasia is formed by hyperplastic interdigital skin. It usually begins at the axial surface of the anterior interdigital space on the lateral claw of the rear limb, and can progress to lesions spanning the entire interdigital space. Chronic skin irritation from grazing stubble or rocky pastures, poor hygiene, mild interdigital dermatitis or interdigital phlegmon (foot rot) can result in hyperplasia. Horn overgrowth may cause the soles to trap manure in the interdigital space, leading to chronic irritation and hyperplasia. Also, excessive splaying of the toes from excess body condition, breakdown of interdigital ligaments or an unbalanced foot may cause stretching of the interdigital skin and predispose

cattle to interdigital hyperplasia. These conformation defects of the foot may account for the hereditary predisposition in some lines of cattle.

Histologically, the lesions consist of hyperkeratotic and parakeratotic skin with increased cellularity in the stratum granulosum and stratum spinosum and evidence of chronic inflammation. If secondary damage is present, evidence of ulceration and local or deep infection may be present.

Other Predisposing Factors

Interdigital hyperplasia may occur in one or multiple feet of a particular animal, and are more common in the rear limbs than forelimbs. They are also more common in heavy animals, particularly bulls.

Treatment

Small lesions may not result in lameness, but larger lesions may put mechanical stresses on the digits, causing mild to moderate lameness. Severe lameness is usually associated with large ulcerated and/or infected hyperplasias. The infection is usually superficial, but can spread

to deeper interdigital tissues if left untreated. The clinical importance of the lesion is determined by assessing pain in response to pressure on the lesion. Painful lesions are more likely to cause lameness and thus are more likely to benefit from surgical removal.

Small interdigital hyperplasias not causing lameness may not need any treatment, but should continue to be observed for signs of enlargement, ulceration or infection. Keeping the foot balanced through hoof trimming may slow the growth of lesions. Larger and/or infected lesions causing lameness should be surgically resected. Prophylactic removal of small lesions in sound animals should be performed with caution, as removal commonly causes lameness, which can be protracted in some cases.

For surgery, animals are best positioned in lateral recumbency with physical and/or chemical restraint. Surgery can be performed on animals standing in a hoof trimming chute, but it is more difficult for the operator to visualize the lesions due to the dorsal location of the lesion. The hooves should be trimmed to the correct length and proper balance.

A tourniquet should be placed above the fetlock to provide hemostasis. Intravenous regional perfusion or local interdigital injection of a local anesthetic agent should provide adequate surgical anesthesia of the area.

Two holes should be drilled through the hoof wall in each claw at the toe and slightly abaxial to the toe. Small diameter wire cut into 12 inch lengths should be placed through one hole in each claw to facilitate separation of the dig-

Important Things to Know About Interdigital Hyperplasia

- Interdigital hyperplasia or corns are firm fibrous masses consisting of hyperkeratotic and parakeratotic skin found in the interdigital space of beef and dairy cattle
- The lesions appear to occur secondary to chronic skin irritation due to environmental, conformational and hereditary factors
- Where lesions become large and/or infected, surgical removal is the preferred treatment
- Improved hygiene and appropriate hoof trimming are the keys to prevention

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Interdigital Hyperplasia *continued*

its and exposure of the hyperplasia (Figure 1).



Figure 1. Preparation of the foot for surgery with adequate restraint and the toes wired to allow separation and visualization of the surgical field.

The foot should be surgically prepared, taking care to thoroughly disinfect the crevice between the hyperplasia and the axial hoof wall.

The mass can be grasped with tissue or towel forceps. An inverted V incision should be made at the dorsal interdigital space a few millimeters dorsal to the hyperplasia. While putting traction on the hyperplasia with the forceps, the incision is continued in a wedged-shaped pattern towards the ventral interdigital space (Figure 2) along the axial hoof walls and deep into the interdigital space. Any firm fibrous tissue should be removed. If the fat pad is encountered and is protruding from the interdigital space, it should be removed with blunt dissection, taking care to avoid the distal interdigital cruciate ligaments.

Antibacterial powder should be applied to the interdigital area. With large post-



Figure 2. Dissection of the hyperplastic growth from the dorsal aspect of the foot.

surgical defects, the interdigital space can be packed with sterile gauze or cotton (Figure 3). The toes can be wired together to decrease movement of the claws, but this may not be necessary in housed animals. The entire foot, including the solar surface should be incorporated in a tape bandage with or without gauze.



Figure 3. Post surgical care involving application of a sterile dressing.

Systemic antibiotics are indicated only if the interdigital space deep to the hyperplasia is infected.

After-care

Bandages should be removed and/or replaced according to the size of the defect and anticipated healing time. In most cases, bandages can be removed at one week. However, total healing time may be three weeks, and animals must be kept in a dry environment until healing is complete. Post-surgical infections of the interdigital space from improper care can be severe and life-threatening. The wires can be left in place to wear out, or be removed when healing is complete.

Prevention

Good hygiene and proper hoof care and trimming will decrease the number of sporadic cases of interdigital hyperplasia. Interdigital hyperplasia caused by poor conformation is very likely to recur, since the predisposing conformation problems will usually remain after removal of the growth. Animals suspected of having interdigital hyperplasia due to hereditary factors should be culled or only used for breeding of terminal crosses. **AABP**