INTERDIGITAL FIBROMA IN FORE LIMB OF A MALE BUFFALO: A CASE REPORT

Deepak Kumar Kashyap[1], Devesh Kumar Giri[2,*] and Govina Dewangan[3]

ABSTRACT

An 8 years old male buffalo was presented to the clinics with a small nodular swelling just below the dew claws on the posterior aspect of the right fore limb. History and clinical examination showed difficulty in walking with gradual enlargement of the mass. Radical surgery was performed under local infiltration and resected mass was diagnosed as fibroma upon histopathological examination. Post-operative follow up was done for 5 days. The animal was completely recovered on 8th postoperative day. Thus, interdigital fibroma can be treated effectively by radical surgery.

Keywords: buffalo, fore limb, interdigital fibroma, surgery, India

INTRODUCTION

Various foot lesions occur in animals due to continuous contact with the hard ground surface leading to irritation or injury. Some lesions persist for a longer time and owing to the chronic irritation may undergo neoplastic changes. Interdigital fibroma is a common and frequently associated factor for lameness which is composed of overgrowth of hardier fibrous connective tissue usually covered by skin epithelium between the digits. They originate at the subcutis usually noticed at the plantar aspect of coffin joint as a small nodular and protruding mass in response to several etiological factors. There may be a hereditary predisposition in some animals (Conington *et al*., 2010; Chhatpar *et al*., 2012). It affects foot of either forelimbs, hind limbs or involves more than one foot in an animal (Balappanavar and Patil, 2012). The present report records a clinical case of interdigital fibroma in a male buffalo.

CASE HISTORY AND OBSERVATIONS

An 8 years old male buffalo was referred from the local paravet with a complaint of an ulcerated growth at posterior aspect, just below the dew claws and between the digits of the right fore limb noticed since 2 weeks (Figure 1). The mass gradually increased in size. Clinical examination

[1]Department of Veterinary Surgery and Radiology, Arawali Veterinary College, Bajor, Sikar, Rajasthan, India
[2]Department of Veterinary Pathology, College of Veterinary Science and Animal Husbandry, UP. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan, Mathura, Uttar Pradesh, India, *E-mail: giri.devesh18@gmail.com
[3]Department of Veterinary Microbiology, College of Veterinary Science and Animal Husbandry, Chhattisgarh Kamdhenu Vishwavidyalaya, Anjora, Durg, India

showed a small nodular broad based mass which was hard in consistency leading to mild lameness. Physiological parameters were under normal limit. On the basis of history, clinical findings and exploratory puncture the case was diagnosed as a case of interdigital fibroma. Owner was suggested for surgical excision of the mass. After discussion with owner, finally it was decided to perform surgery for complete removal of the mass so as to relieve the patient from this condition.

TREATMENT AND DISCUSSION

The animal was secured in left lateral recumbency. The site was prepared by clipping, shaving of hairs and application of antiseptic solution. Desensitization of the operative site was achieved by local infiltration of the 2% lignocaine HCl (8 ml) at the broad base of the mass. A circular skin incision was given at base of the mass. The incision was deepened by blunt dissection with scissors to separate the attachments. Mass was resected out and cauterized with diluted 2% potassium permegnate. After complete cauterization the cavity was irrigated with povidone iodine solution. The wound treated as open wound and dressed with neosporin powder and soframycin ointment. Parentrally, streptopenicilin (2.5 gm) intramuscularly for 3 days and meloxicam 0.2 mg/kg body weight, intramuscularly for 2 days were given postoperatively. Daily dressing was done up to healing of the wound. For histopathological examination the resected mass was preserved in 10% neutral buffered formal saline, dehydrated in ascending grades of alcohol, cleared in benzene and embedded in paraffin, 5 µ thin tissue sections were stained with hematoxylin and eosin (H and E) and examined microscopically.

RESULTS AND DISCUSSION

The animal showed remarkable improvement after 4rd post-operative day and animal completely recovered within 8 days.

Figure 1. Small nodular mass at the below the dew claw and extending between the digits at posterior aspect of right fore limb of a buffalo.

Histopathological examination revealed proliferated spindle shaped fibroblasts with streaming and interlacing bundles. The bundles were running in criss-cross directions with occasional formation of whorl (Figure 2). Interdigital fibroma can be caused by factors like trauma, excessive motion or moisture and abnormal foot and hoof conformation, such as splay toes and protrusion of the interdigital foot pad. If not treated promptly, the skin may provide the entry to secondary infections. Both fore and hind feet are predisposed to the factors causing the condition (Rhebun and Pearson, 1982). It has also been noticed that in dairy cows, interdigital fibroma tends to affect mainly the rear feet but in beef cattle it affects mainly the fore feet (Welker, 1993). Interdigital fibroma cause poor performance due to lameness as in the present case. The lesions progressively enlarge gradually and become easily injured, ensuing to severe lameness (Rhebun and Pearson, 1982), also if the skin at the site is injured and not treated early, infections of the foot more often invade deeper tissues particularly the synovial structures, tendons, ligaments and bones (Farrow, 1985). Somers *et al.* (2005) observed that the wet conditions and accumulation of slurry also compromise the integrity of external structures of the claw, thus promoting entry and establishment of bacterial foot infections. Nguhiu *et al.* (2008) studied foot ailments in dairy cows in urban and periurban areas of Kenya and reported that a total of 90% cows were healed following routine medication and surgical resection, whereas 6% were slaughtered and 4% died.

According to Cramer *et al.* (2009) the detrimental risk factors for foot lesions in tie stalls included routine spraying of feet in larger herds accounting for 3.0 fold increase in cases of interdigital fibroma, and the use of wood bedding material can account for 6.5 fold increase in the cases of interdigital fibroma as compared to straw bedding. It is concluded that routine examination of animals is a must and the neoplastic growth, if any must be resected at an earliest adopting all aspetic conditions for welfare of the animals and

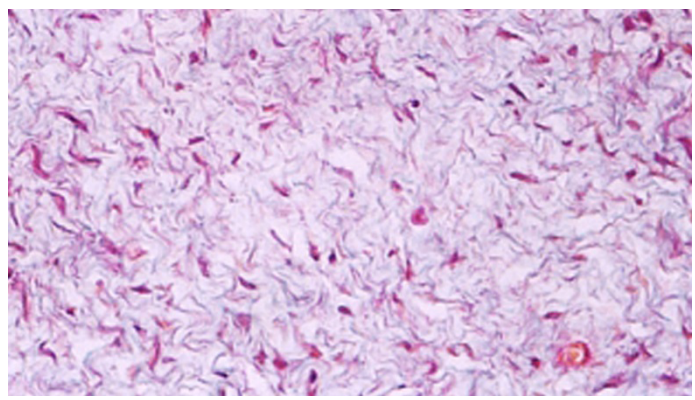

Figure 2. Fibroma at the leg of buffalo showing proliferated spindle shaped fibroblasts with streaming and interlacing bundles and whorl formation.

profits of the farmers.

REFERENCES

Balappanavar, B.R. and A.S. Patil. 2012. Surgical excision of interdigital fibroma in a bullock. *Intas Polivet*, **13**(2): 215-216.

Chhatpar, K.D., A.M. Panchal and D.R. Kamani. 2012. Interdigital fibroma and its surgical management in a bullock. *Intas Polivet*, **13**(2): 213-214.

Conington, J., L. Nicoll, S. Mitchell and L. Buenger. 2010. Characterisation of white line degeneration in sheep and evidence for genetic influences on it occurrence. *Vet. Res. Commun*., **34**: 481-489.

Cremer, G., K.D. Lissemore, C.L. Guard, K.E. Leslie and D.F. Kelton. 2009. Herd-level risk factors for seven different foot lesions in ontario holstein cattle housed in tie stalls or free stall. *J. Dairy Sci*., **92**: 1404-1411.

Farrow, C.S. 1985. Digital infections in cattle: The radiologic spectrum. *Vet. Clin. Am.-Food. A*., **1**: 53-65.

Nguhiu, M.J., P.M.F. Mbithi, J.K. Wabacha and P.G. Mbuthia. 2008. Retrospective study of foot conditions in dairy cows in urban and periurban areas of Kenya. *Isr. J. Vet. Med*., **63**(2): 40-45.

Rhebun, W.C. and E.G. Pearson. 1982. Clinical management of bovine foot problems. *J. Am. Vet. Med. Assoc*., **181**: 572-579.

Somers, J.G.C.J., W.G.P. Schouten, K. Frankena, E.N. Noordhuizen-Stassen and J.H.M. Metz. 2005. Development of claw traits and claw lesions in dairy cows kept on different floor systems. *J. Dairy Sci*., **88**: 110-120.

Welker, B. 1993. Interdigital fibroma. *In* Jimmy, L.H. (ed.) *Current Veterinary Therapy 3: Food Animal Practice*. W.B. Saunders, Philadelphia, USA. 8p.