Dhakeri-Bange syndrome in goats due to *Penicillium* and *Aspergillus spp*, in Banke district of Nepal: a Clinical-Laboratory Investigation

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Abstract

An outbreak of syndrome of unknown etiology associated with the feeding of moldy dry forage and green fodder to goats in Dhakeri village of Banke District. Goats suddenly became ill with symptoms of knuckling of the fetlocks of the pelvic limbs, with no apparent ataxia or flexor weakness. Weight bearing was possible while the digits were extended, but with knuckling, weight was supported on the dorsal surface of the foot .The more severely affected goats were paraplegic and recumbent. Anorexia, apathy, diarrhea and ruminal stasis, flaccid posterior paralysis,hindlegs stretched forward both side of abdomin,paralysis of all four legs, head bented to sides, aimlessly head and rear shaking .On clinical examination based on history these goats were provisionally diagnosed as Dhakeri-Bange as being called locally and Endemic Mycotic polyneuropathy syndrome as seen first time in Nepal due to moldy forage/fodder poisoning in natural pasture were treated with Antidegnala liquor(sr). On mycological and microbiological examination of tissue samples from post-mortem of dead goat and forage/fodder samples from pasture and goats feeding stalls on respective medium revealed the growth of fungal pathogens like Aspergillus and Penicillium spp with E.coli.These results provide circumstantial evidence that feeding of moldy forages and green fodder leaves infected by Penicillium and Aspergillus spp may cause outbreaks of a systemic Mycosis in these goats.

Keywords: Moldy forage, greenfodder, Penicillium, Aspergillus Spp, Fungus, Goat,Dhakeri-Bange,mycoticpolyneuropathy,Banke,Antidegnala liquor(s.r) .

Introduction

During the autumn season in Month of October-November of year 2008 about 300 goats raised by farmers of different village development comities in Banke districts of Nepal started showing paralytic symptoms like Kumri and were treated with the preparation of Diethylcarbamazin but disease situation did not subsided. The goats included in this study had knuckling of the fetlocks of the pelvic limbs, with no apparent ataxia or flexor weakness. Weight bearing was possible while the digits were extended, but with knuckling, weight was supported on the dorsal surface of the foot .The more severely affected goats were paraplegic and recumbent. The syndrome was consistent with sciatic or peroneal nerve disease. The paraplegic goats also have had a component of femoral nerve involvement. A field and clinical laboratory investigation was initiated to find out the cause of disease and to provide the appropriate curative and preventive measure.

Materials and Methods

1. Clinical examination of goats in herds: All goats present in farmers house and stalls and pasture on clinical examination were found having symptoms like Anorexia, Ataxia, Diarrhea, Dullness, Dysmetria, Generalized weakness, various stage of poly-neuropathic condition; knuckling of the fetlocks of the pelvic limbs, with no apparent ataxia or flexor weakness. Weight bearing was possible while the digits were extended, but with knuckling, weight was supported on the dorsal surface of the foot similar to reported by Dr. Maurice E. White 2008, , and ruminal stasis, Schneider DJ, et. al.1985. R. W. Medd, et. al., 2008. : L. W. Whitlow and W. M. Hagler, Jr. 2008.

2. Post-Mortem Examination of dead goats: On Post-Mortem examination of all 16 goats revealed the lesions which included mild focal erosions to severe, diffuse, coagulative necrosis of the mucosa in the rumen, reticulum and omasum and congestion and hemorrhages in the abomasum.Liver with shrunken

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appearance pale to yellowish discoloration with bile filled distended bladder pin point hemorrhage in kidney, small intestine with excessive mucus similar to lesions experimentally induced by Schneider DJ, et.al. 1985; and reported by DhamaK,et.al. 2007, R. W. Medd, et.al.,2008; Hussein S. Hussein, and Jeffrey M. Brasel 2001.

3: Microbial/Mycobial Culture examination of Post-Mortem Tissue samples: On mycological and microbiological examination of tissue samples from post-mortem of dead goat and forage and fodder from natural pasture on respective medium revealed the growth of fungal pathogens like Aspergillus and Penicillium spp with *E.coli* similar to the findings of Karki et.al. 2008; C. Wendell Horne 2008; www.springerlink.com/index/q7g038v8x3m10026.pdf 2008 Sabreen, M. S. and Zaky, Z. M. 2001; S. Hanche-Olsen , J. Teige , I. Skaar , and C.F. Ihler .Where as all nasal and rectal swabs from sick and dead animals tested for PPR with penside test turn out to be negative.

4:Treatment of clinically affected goats and Rest herd: All goats that were showing clinical symptoms were treated with Antidegnala liquor(s.r) 2 ml s/c followed by 1 ml daily for next four days.Similarly rest of animals in herds were also provided with same drugs at the dose rate of 1 ml orally for four days.Those goats received the treatment as earliest time recovered promptly the delayed treated goats too recovered but took bit longer time the treatment response was similar to earlier findings of Karki et.al 2008.

Results and Discussion

As during warm humid climate of tropics and subtropics favors growth of mold and fungus in feed grains and fodder especially after heavy monsoon rain feeding of exclusively such grain to livestock and poultry seems to cause the detrimental effect in the health these animals. As in this investigation clinical signs of anorexia, apathy, diarrhea and ruminal stasis and Clinical pathological findings included mild focal erosions to severe, diffuse, coagulative necrosis of the mucosa in the rumen, reticulum and omasum and congestion and hemorrhages in the abomasum.Liver with shrunken appearance pale to yellowish discoloration with bile filled distended bladder pin point hemorrhage in kidney, small intestine with excessive mucus. On mycological and microbiological examination of tissue samples from post-mortem of dead goat on respective medium revealed the growth of fungal pathogens like Aspergillus and Penicillium spp with E.coli.These results provide circumstantial evidence that feeding of moldy maize grain and green fodder leaves infected by Penicillium and Aspergillus spp and timely use of Antidegnala liquor has controlled the further mortality in sick goats and when remaining animals in herd there was no further appearance of syndrome indicative of the above polyneuropathic syndrome was caused by a systemic Mycosis in these goats need to be looked into.

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Clenbuterol Food Poisoning in China

China reports several cases of Clenbuterol food poisoning. Since 10 Nov 2008, 70 employees of the Zhongmao Plastics Products company in Jiaxing showing symptoms like palpitation, nausea, vomiting, dizziness, chest tightness, uneasiness, shaking, trembling, weakness, and instability have been diagnosed as clenbuterol food poisoning. A pork dish served at the Zhongmao cafeteria lunch meal was identified as the source. Clenbuterol is an asthma medicine. If used in pig feed, it will speed up the catabolism of fat in pigs and also enhance the lean meat and muscle in pigs. It will not decompose until it is heated to over 172 degree Celsius and therefore cooking will not eliminate clenbuterol toxicity. Clenbuterol added to feed will not only shorten the growth time but also increase the sale price. Pork containing clenbuterol often has a bright red skin with very little fat. Long term consumption will lead to retardation, malignant tumors and pose particular danger to patients who have high blood pressure or diabetes. Excessive intake can be life-threatening. According to partial data, since 1998, there have been at least 18 clenbuterol food poisoning reports in China. More than 1700 people have been poisoned, with one confirmed death. **Source: <http://www.promedmail.org>**