

Tetanus in Injured Beetal-kamori Cross Goat: A Case Report

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Abstract

Tetanus is a fatal disease caused by *Clostridium tetani*, a spore forming, Gram-positive, anaerobic bacterium, in human and animals. In present report, a 3 year old, Beetal-Kamori cross goat, weighing about 60 kg was presented to outdoor clinics of Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan with complaint of bloat, weakness, anorexia and abnormal gait. History indicated that animal got injury on hoof 5 days before from some sharp thing on the ground. Upon visual examination it was revealed that wound was not properly healed. Physical examination revealed stiffness of fore and hind limb muscles and jaw muscles, hyperesthesia and 3rd eyelid prolapse. Owing to the presence of contaminated wound and clinical signs, the disease was diagnosed as tetanus. Treatment given to animal was procaine penicillin @ 44,000 IU/kg IM, diazepam @ 0.1 mg/kg IM. The treatment was prescribed for 7 days. Debridement and washing of wound was done with hydrogen peroxide. On the 5th day of treatment, animals gait improved and trismus reduced. All in all, goat was also a culprit of tetanus and treatment resulted in improvement in health parameters.

Keywords: *Clostridium tetani*; Hyperesthesia; Eyelid Prolapse

Introduction

Tetanus is a neuromuscular disorder of animals and human and is also an infectious and potentially fatal disease. It is caused by *Clostridium tetani* which is a spore forming, Gram-positive, anaerobic bacterium. In soil the spores are ubiquitous and resistant. Gut of animal is the other reservoir of spore [1,2]. Two types of toxins are produced by the causative agent (*C. tetani*) viz. tetanysin and tetanospasmin. Favorable conditions are provided by the tetanolyisin (necrotizing toxin) and clinical signs by tetanospasmin. Incubation period is variable in case of tetanus. It varies according to the location of wound/injury and distance of wound from CNS [2,3].

Clinically disease is characterized by 3rd eyelid prolapse, Hyperesthesia to touch, sound and light, lock jaw and generalized stiffness of body including head and neck. Tail is look like 'pump handle' due to stiffness. In advanced stages, due to involvement of pharyngeal and laryngeal muscles the affected animal is incapable to swallow. Other manifestation of tetanus are aspiration pneumonia, bloat and drooling of saliva [1-3].

Disease can also occur in sheep and goats [4]. Infection is susceptible to all age groups. Shearing, punctured wound, dehorning, disbudding, dystocia, tattooing, parturition, trimming of hoof and castration are the pre-disposing factors of tetanus in small ruminants [5]. In lambs tetanus may be followed by castration and docking in contaminated yards [6].

Tetanus occurs worldwide but reports in goats found in Pakistan are extremely scarce. As far as could be ascertained, from January 2003 to June 2007 only one case was reported from veterinary dispensaries of Gilgit, Pakistan [7].

Case Descriptions

A 3 years old, Beetal-Kamori cross goat, weighing about 60 kg was presented to outdoor clinics of Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan with complaint of bloat, weakness, anorexia and abnormal gait. Animal got injury on hoof 5 days before from some sharp thing on the ground. Upon visual examination it was revealed that wound was

not properly healed on the day of examination (Figure 1). Tail of the subject goat was erected like a pump handle. Physical examination revealed that fore and hind limb muscles was stiff (Figure 2). Bloat was evident in the subjected goat (Figure 3). 3rd eyelid prolapse (Figure 4) and hyperesthesia to touch, sound and light were also noticed. Moreover, salivation was observed due to aspiration pneumonia and erection of ears was also noticed. Rectal temperature (102°F), pulse rate (75 beats/mins) and respiration rate (31 breath/min) were in normal range. Tetanus was diagnosed on the basis of above mentioned clinical picture.

Treatment

Goat was treated with procaine penicillin @ 44,000 IU/kg IM, diazepam @ 0.1 mg/kg IM. The treatment was prescribed for 7 days. Debridement and washing of wound was done with hydrogen peroxide. On the 5th day of treatment, animals gait improved and trismus reduced.

Figure 1: Wound on hoof of 3 years old Beetal-Kamori cross goat. Wound had not properly healed.

Figure 2: Fore and Hind limb muscles stiffness.

Figure 3: Bloat development in subjected goat.

Figure 4: Prolapse of 3rd eyelid of tetanus affected goat.

Discussion and Conclusion

Tetanus is a fatal disease caused by *Clostridium tetani* (Gram's positive bacteria). After specific neurotoxins production anaerobically in the tissue, it causes toxemia. Bacteria changes in to spores during unfavorable conditions that are present in soil worldwide. All mammals are susceptible to infection but horses and lambs are more sensitive to attain tetanus infection. Nonetheless, however, goats can also get the infection [1,3].

Shearing, punctured wound, dehorning, disbudding, dystocia, tattooing, parturition, trimming of hoof and castration are the predisposing factors of tetanus in small ruminants. In present case report, a 3 years old Beetal-Kamori cross goat got injury on hoof from some sharp thing on the ground. Wound becomes contaminated and animal developed particular signs of tetanus. Goat was diagnosed as tetanus on the basis of clinical signs and presence of contaminated wound.

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