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## Successful therapeutic management of tetanus in a non-descriptive goat

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### Abstract

Tetanus toxemia is caused by a specific neurotoxin produced by *Clostridium tetani* in necrotic tissue. There is a characteristic abdominal tympany, nystagmus along with generalized stiffness. A 2 year non-descriptive goat was presented with clinical signs of inappetence, lock jaw, stiff limb, moderate tympany and nystagmus. Anamnesis revealed that the goat kidded 45 days back. The goat recovered successfully after 3 days following treatment of fluid therapy, parenteral antibiotic and corticosteroid like dexamethasone. The severity of clinical signs and successful recovery within a short period of treatment was discussed in this case report.

**Keywords:** Tetanus, non-descriptive goat, nystagmus, penicillin

### 1. Introduction

Tetanus is caused by specific neurotoxin produced a gram-positive, spore-forming an- aerobic bacterium, *Clostridium tetani*. This organism is found in the soil and the guts of animals, especially horses, and in the faecal contaminated soil. Surveys in different areas of the world shows that it is present in 30 – 40% of soil samples [1,2]. The disease is characterised by muscle stiffness, trismus, nystagmus, generalized muscular rigidity, spasms, hyperesthesia, convulsions, respiratory arrest and death.

### 2. Case History and Clinical Observation

A 2 year female, non-descript goat (doe), kidded 45 days back, having body weight of 18 kg, was presented with the symptoms of stiffness and rigidity of all four limbs, neck (unable to turn any direction), unable to open mouth, Stiffness of intercostal and abdominal muscles and absence of rumination. Defecation and urination were normal in nature but, the frequency and quantity was reduced. Moderate tympany of rumen was noticed. These symptoms were noticed since 2 days. On observation, no external wounds were found. Animal was presented in lateral recumbency (fig. 1).

### 3. Treatment and Discussion

The goat was treated with antibiotics like Amoxicillin-Cloxacillin (AC VET) @ 10 mg/ kg body weight [3], Corticosteroid like Dexamethasone (DEXONA) @ 0.5 mg/ kg body weight intra venous, B complex (TRIBIVET) @ 2 ml intramuscular and normal saline as fluid therapy. After 3 days of treatment the animal recovered successfully and returned to normal standing posture (fig. 2).

The organism enters the body usually through deep puncture wounds but the spores may lie dormant in the tissues for sometime and produce clinical illness only when tissue conditions (tissue anorexia) favor their proliferation. This organism on proliferation produce tetanospasmin and tetanolysin which causes blockage of gamma motor neuron results a state of constant muscular spasticity [1]. Secondary to which there is tympany, prolapse of 3<sup>rd</sup> eye lid, lock jaw condition, stiffness of the limbs and in terminal stage respiratory paralysis results death of the animal.

Therapeutic regimen includes neutralization of antitoxin by anti-tetanus serum or removal of the toxin by fluid therapy. Due to increased cost, poor farmers are not able to purchase the antitoxin so fluid therapy is the only alternative choice to remove the toxins.

For destruction/ inhibition of the clostridial organism a course of broad spectrum parenteral antibiotic therapy may be given followed by anti-inflammatory and supportive therapy may be given [4].

Tetanus is curable, if treated in early stages. But it's advised to maintain hygienic condition during parturition and proper wound care along with tetanus toxoid administration as prophylaxis measure is the best method to avoid this disease.



**Fig 1:** Tetanus affected goat in lateral recumbency and stiffness of the limbs



**Fig 2:** Remission of the clinical sign after the treatment

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