

THERAPEUTIC POTENTIAL OF AFANIL[®] AGAINST BLOAT AND FOR EARLY RESTORATION OF RUMEN FUNCTION IN BOVINES

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ABSTRACT

Efficacy of herbal oral formulation Afanil[®] (Supplied by M/s Ayurved Ltd, Baddi, HP; India) was evaluated against bloat condition in bovines on the basis of improvement in clinical, hematological and rumen fluid analysis. For this a clinical study was undertaken on 20 cases of bovines suffering from bloat presented to Department of Veterinary Medicine, College of Veterinary and Animal Sciences, Parbhani, Maharashtra. Total cases were divided in two treatment groups T₁ and T₂ of 10 animals each. T₁ was administered conventional antizymotic mixture of vegetable oil 750 ml-1.5 liter mixed with 20-30 ml of turpentine oil orally. T₂ was treated with herbal anti bloat oral formulation (Afanil[®]) @ 100 ml twice daily till recovery. Supportive and fluid therapy was also given to the animals from both the groups. Time period required in hours for resumption of distended rumen and rumination process was significantly lesser ($P < 0.01$) in animals treated with Afanil[®] (6.08 ± 0.37 and 6.95 ± 0.39) as compared to conventional anti bloat therapy in T₁ (9.65 ± 0.71 and 10.75 ± 0.71). 2.50 ± 0.17 and 1.70 ± 0.15 days was the mean time period required for complete clinical recovery after conventional and Afanil[®] anti-bloat therapy respectively.

Afanil[®] efficiently normalized the altered hematological as well as rumen pH conditions as compared to that of T₁. In present clinico-therapeutic trial, Afanil[®] herbal anti bloat preparation was found to be effective to treat bloat cases of bovines in comparison to conventional therapy. It contains herbal extracts and carminative volatile oils which ensure quick and prompt relief in bloat cases hence may be successfully employed in the treatment.

Keywords: Afanil[®], bloat, antizymotic, tympany, herbal

INTRODUCTION

Bloat is an over distention of the rumen and reticulum with the gases of fermentation either in the form of a persistent foam mixed with the ruminal contents called primary or frothy bloat, or in the form of free gas separated from the ingesta called secondary or free-gas bloat (Merck Veterinary Manual, 2011). It occurs due to feed rations containing a high proportion of grains or due to feeding of fresh green legumes. In acute tympany or bloat, due to progressive distension of rumen there is respiratory and cardiac distress which if not relieved, may rapidly lead to asphyxia, cardiac failure and death (Radostits et. al, 2003).

Comparative efficacy of the Afanil® herbal anti bloat therapy with that of conventional therapy was evaluated in the present clinical study.

MATERIALS AND METHODS

The present investigation was undertaken at Department of Veterinary Medicine, College of Veterinary and Animal Sciences, Parbhani, MAFSU, Maharashtra. Twenty bovine cases presented with clinical features of frothy as well as free gas bloat formed the basis of the experiment. The clinical cases were divided in two treatment groups T₁ and T₂ of 10 animals each. Feeding and clinical history was recorded in every case which followed blood and ruminal fluid sample collection for further analysis.

Animals in group T₁ (n=10) suffering from bloat of dietary origin were administered conventional antizymotic mixture of vegetable oil 750 ml-1.5 liter mixed with 20 -30 ml of turpentine oil orally. Group T₂ (n=10) was treated with herbal anti bloat oral formulation Afanil® 100 ml twice orally daily till recovery (not more than 2 days in this experiment). Supportive therapy with antihistaminic, IV fluids (RL/DNS) along with sodium bicarbonate or ascorbic acid was also instituted depending upon the cause of bloat in affected bovine. Clinical signs were recorded after treatment.

The efficacy of the treatment in both groups was assessed on the basis of improvement in, a) Clinical parameters e.g. time period required for resumption of distended rumen, rumination and other physiological processes. b) Hematological- TLC, DLC and c) Ruminal fluid analysis- pH and consistency.

RESULTS AND DISCUSSION

Diagnosis was made on basis of the correlating the feeding history with that of clinical signs exhibited by the animals. Most of the animals had clinical features comprised of over distended abdomen with bulging of upper left flank, anorexia, absence of rumination and retarded ruminal motility, dehydration, dyspnoea, dullness and depression. Tympanic or drum-like sound was heard on percussion of left paralumbar fossa. Milk yield was greatly reduced or absent in lactating animals. All of the animals were having the feeding history of highly succulent leguminous fodder, flour or grains.

A prompt response to treatment with Afanil® was noticed. Over distended rumen started getting rid of gases and froth within minutes and minimum time period required for rumen to completely assume its normal shape was only 4.50 hrs after the initiation of therapy (Table 1). While that for conventional treatment required 6.5 hrs. Mean time period required for resumption of distended rumen after treatment in Afanil® treated group was 6.08 ± 0.37 hrs against 9.65 ± 0.71 hrs required for conventional therapy. Similar findings were also noted by Gahlaut (1998).

Mean time period required for resumption of rumination process (Table 1) after Afanil® therapy was 6.95 ± 0.39 hrs therapy. In comparison to this 10.75 ± 0.71 hrs were required with conventional therapy. A complete clinical recovery occurred in mean time period of 1.70 ± 0.15 days after Afanil® therapy while conventional therapy required more time for complete recovery i.e. 2.50 ± 0.17 days.

Blood parameters with reference to TLC and DLC of affected bovines before and after

Table 1. Mean values of clinical parameters in different treatment regimen against bloat in bovines.

Sr.No	Clinical parameters	Group T ₁ Conventional therapy	Group T ₂ Afanil [®] therapy
A	Period required for resumption of distention of rumen in hours after treatment (in hours)	9.65 ± 0.71 ^a	6.08 ± 0.37 ^b
B	Period required for resumption of rumination process in hours after therapy (in hours)	10.75 ± 0.71 ^a	6.95 ± 0.39 ^b
C	Period required for overall clinical recovery e.g. normal appetite, physiological parameters and milk (in days)	2.50 ± 0.17 ^a	1.70 ± 0.15 ^b

Means bearing different superscript in a row differ significantly at P=0.05 level

Table 2. Evaluation of pH of ruminal fluid in clinical cases of bloat before and after treatment.

Group T ₁ (Conventional therapy)			Group T ₂ (Afanil [®] therapy)	
Case no.	BT	AT	BT	AT
Mean ± SE	7.87 ± 0.43	7.15 ± 0.23	7.47 ± 0.58	6.77 ± 0.15

BT: Before treatment AT: After treatment

Afanil[®] therapy were studied. Differential Leukocyte Count (DLC) showed eosinophilia to the extent of 5.70 ± 0.37 in affected cases which were improved to 3.0 ± 0.26 and 2.70 ± 0.21 in group T₁ and T₂ animals respectively. As ruminal and blood plasma histamine concentrations increase during ruminal lactic acidosis (Asenbach and Gabel, 2000) eosinophilia may be because of histamine upsurge in bloat cases which was significantly brought down in Afanil[®] treated group.

Analysis of ruminal fluid before and after treatment in both the groups was done (Table 2). Results obtained after analysis showed that Afanil[®] efficiently brought the altered levels of the ruminal pH to normal level required for optimum ruminal fermentation and fiber digestion.

The carminative, antispasmodic, anti-flatulent, stomachic, alterative and laxative properties of Afanil[®] are contributed by its constituent herbs for which these activities have been well documented (Nadkarni, 1954; Chopra et. al, 1982; Kapoor, 1990; Hussain et. al 1992).

In the present clinico-therapeutic trial, the product Afanil[®], herbal anti bloat preparation was found to be safe, effective, non-toxic and promising therapy to treat frothy as well as free gas bloat cases of bovines in comparison with conventional therapy. Results in the present experiment corroborates well with earlier findings of Sharma (1996), Gahlaut (1998) and Bhardwaj (1998).

Thus, it was concluded that Afanil[®], a liquid emulsion containing herbal extracts and carminative volatile oils ensures quick and prompt relief in bloat cases and may be successively used in field conditions to prevent the losses from bloat origin.

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