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Antibiogram of Pericardial Fluid from Pericarditis affected Cattle

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A B S T R A C T

Twelve Pericarditis affected cattle presented to the Veterinary College Hospitals, Veterinary College, Hassan, KVAFSU, Bidar were subjected for ultrasound guided pericardiocentesis, pericardial fluids were subjected for antimicrobial sensitivity test. The highest sensitivity was observed to for Ciprofloxacin, Amoxycillin, Ceftriaxone, Streptomycin, Chloromphinicol and Piperacillin. Culture and sensitivity will help full in selection of appropriate antibiotic intern will get good outcome. The antibiogram helped in proper medical care for pericarditis affected cattle.

Introduction

Pericarditis is an inflammation of the pericardium with an accumulation of serous or fibrinous exudates. It is often attributable to a reticular foreign body that has penetrated the reticular wall, diaphragm and pericardial sac (Radostits *et al.*, 2007). The echocardiography will help in deciding the optimal site for pericardiocentesis and the most common site is the elbow level at the fifth or sixth intercostal space (Linde and Melgarejo, 2010). This disease is of high economic importance and serious due to severe reduction in milk and meat production, treatment costs, potential fatalities and fatal losses in affected pregnant animals. Early diagnosis and proper treatment will give good result in Pericarditis, so in present study Antibiogram was performed in twelve Pericarditis affected cases to select suitable antibody for treatment.

Materials and Methods

Twelve cattle with age groups of one to eight years presented to the Veterinary College Hospitals, Veterinary College, Hassan, KVAFSU, Bidar over a period of three years, with the history of fever, decreased milk yield, depressed, exercise intolerance, coughing, recurrent bloat, dyspnea, jugular pulsation, brisket and submandibular edema

(Plate I) (Braun *et al.*, 2007), were randomly selected and subjected to ultrasonographic evaluation. Ultrasound guided pericardiocentesis (Braun *et al.*, 2001), was performed in confirmed cases of pericarditis (Plate II) and pericardial fluid was subjected to antimicrobial sensitivity test using disc diffusion method as per Cruickshank *et al.*, (1975) on Muller Hinton agar. The antibiotic discs used in the present study were Amoxycillin, Amikacin, Ampicillin, Chloramphinicol, Ciprofloxacin, Ceftriaxone, Chloramphinicol, Sulphadiazine, Gentamicin, Piperacillin, Penicillin, Streptomycin, Trimethoprim, Tetracycline (Plate III). Among 12 cattle of different breed like Hallikar (02), Amruthmahal (01), HF cross breed (5), and Jersey cross breed (4) out of which 10 were females and two were males (Table-1).

Results and Discussion

The samples showed the results of highest sensitivity to Ciprofloxacin (n = 3), Amoxycillin (n = 3), Ceftriaxone (n = 2), Streptomycin (n =2), Chloromphinicol (n = 1), Piperacillin (n = 1) : moderate sensitivity to Penicillin (n = 4), Ciprofloxacin (n = 3), Tetracycline (n = 2), Ceftriaxone (n = 2), Tazobactum (n =1) and resistant to Amikacin (n = 2), Trimethoprim (n = 2). Tetracycline (n = 2) Ampicillin (n = 1), Chloramphinicol (n = 1), Sulphadiazine (n = 1) (Table 1). Manjunatha *et al.*, (2018) subjected pericardial fluid for isolation, where as in present study twelve cattle pericardial fluid was subjected for antibiogram. Pericardial fluid analysis and bacterial culture results vary according to the aetiological agent involved. A mixed population of Gram positive and Gram negative aerobic and anaerobic organisms (gastrointestinal flora) sensitive to cephalexin, gentamicin, cotrimethoxazole, tetracycline and erythromycin is usually present (Athar *et al.*, 2012), where as in present study the organisms are sensitive for Ciprofloxacin, Amoxycillin, Ceftriaxone, Streptomycin, Chloromphinicol and Piperacillin. Culture and sensitivity will help full in selection of appropriate antibiotic intern will get good outcome. In present paper antibiogram helped in proper medical care of Pericarditis in cattle. Ultrasound guided pericardiocentesis and antibiogram of pericardial fluid help in selection of suitable antibody in treatment of Pericarditis cases.

Table.1 List of cattle with different breed and antibiogram of pericardial fluid

Breed	Age	Sex	Antibiotic sensitivity		
			Highly sensitive	Moderately sensitive	Resistant
Hallikar (02 cattle)	3.6 years	Male	Ciprofloxacin	Penicillin	Ampicillin
	5 years	Female	Piperacillin	Tazobactum,	Amikacin
Amruthmahal (01 cattle)	6.5 years	Male	Ceftriaxone	Tetracycline	-
H F cross breed (05 cattle)	1 year	Female	Amoxycillin	Ciprofloxacin	Tetracycline
	8 years	Female	Streptomycin	Ceftriaxone	Amikacin
	4 years	Female	Ciprofloxacin	Penicillin	Sulphadiazine
	3.9 years	Female	Amoxycillin	Penicillin	Chloramphinicol
	5.3 years	Female	Ceftriaxone	Tetracycline	-
Jersy cross breed (04 cattle)	1.6 years	Female	Streptomycin	Ceftriaxone	Trimethoprim
	7.8 years	Female	Chloromphinicol	Ciprofloxacin	-
	5 years	Female	Amoxycillin	Ciprofloxacin	Tetracycline
	4.9 years	Female	Ciprofloxacin	Penicillin	Trimethoprim

Plate.1 Pericarditis affected cattle showing submandibular and brisket edema

Plate.2 Ultrasound guided pericardiocentesis

Plate.3 Antibiogram of pericardial fluids

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