
Palliative Management with Ultrasound Guided Percutaneous Pericardial Lavage for Cow with Pericarditis - A case Report

M.Venkatesan*, P.Selvaraj¹, M.Saravanan², M.Veeraselvam¹, S.Yogeshpriya¹, and K.Jayalakshmi¹

Large Animal Medicine Referral Clinic, Department of Veterinary Medicine¹,
Veterinary Clinical Complex²

Veterinary College and Research Institute, Orathanadu, TANUVAS.

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*Corresponding author:

drvenksmvsc88@gmail.com

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Traumatic reticulopericarditis is a very frequently occurring, high morbid and mortality syndrome affecting bovines in large animal practice. It is quite common in delta districts of Tamil Nadu. For early intervention and economic loss minimization, appropriate diagnostic and prognostic testing is essential. Ultrasound guided, percutaneous pericardiocentesis is the non-invasive technique and helped in therapeutic management and prognostication of traumatic reticulopericarditis. This case documented the successful utility of the palliative therapy.

Case History, Clinical Observations and Diagnosis

A 3.5 year old cross bred Jersey cow weighing around 300 kg, was referred to the Large Animal Medicine Referral Clinic, VCRI, Orathanadu. It had a history of jowl and brisket edema and reduced milk yield over 20 days. Clinical examination confirmed jowl & brisket edema, positive jugular venous stasis with pulsation. Temperature was within normal range. On auscultation of heart, muffled heart sound with low intensity was heard. Special Examinations with Ferroscope revealed increase in ammeter value and X-ray showed presence of sharp metallic foreign body in the thoracic cavity near heart. Trans-thoracic ultrasonography revealed

homogenous echoic pericardial effusion with slow pumping (Fig. 1) and the reticular wall was showed hyper echoic thickening and reduced motility. As farmer was unwilling for surgical intervention, palliative medical care was planned and insisted.

Treatment and Discussion

In India many farmers prefer palliative treatment of cows with pericarditis, owing to the sanctity of the cow and its religious values. Ultrasound guided, Therapeutic and Prognostic Percutaneous Pericardiocentesis was done by using 18G needle and IV set; around 2 liters of foul smelling serosanguinous pericardial fluid was drained. Pericardial lavage was done with 500 ml of Normal saline and 400 ml of

Fig.1. Ultrasonography of pericardium and heart at 4th ICS revealed homogenous echoic pericardial effusion compressed cardiac chambers.



Fig.5. Ultrasonography of pericardium and heart at 4th ICS revealed reduction in pericardial effusion space.



Metronidazole by infusing it intra-pericardially. Drainage and lavage was done every two weeks for one and half month's period. Cow was parentally treated with Inj. Procaine Penicillin - 5g IM, Inj. Flunixin meglumine 2.2mg/kg b.wt. IV, Inj. Furosemide – 2 mg/kg b.wt. IV, Inj. Chlopheneramine maleate – 10 ml IM, inj. Vit B1 B6 B12 – 10 ml IM for 3 days during each episodes of the procedure.

The effusion was reduced by 3rd week (Fig. 2) and there was increase in the contractibility of the heart; clinical improvements were observed from day 18 onwards with reductions in jowl and brisket edema improved, concentrate intake and milk yield by 500 ml. The cow's health was received telephonically once in three days. Currently the cow was doing well even though it harbors metallic foreign body in it's thoracic cavity. After one and half month of palliative medical care, ultrasonographic evidence of pericardial fluid reduction coupled with clinical improvements.

Broad spectrum antibiotics, pericardiocentesis, pericardial lavage and non-steroidal anti-inflammatory drugs were reported to effectively used for the management of traumatic reticulopericarditis (Radostits *et al*, 2007). The same approach helped in palliation for this cow.

Seldom, medical therapy with systemic antibiotics and drainage of the pericardial sac permanently cures affected cattle (Peek *et al*, 2008). Hence it becomes essential when the farmer or owner prefers non-invasive approaches.

The present case report was concurred with the findings of Selvaraj *et al.* (2013); Sasikala *et al.* (2018) who reported pericardiocentesis for prognostication and pericardial lavage with temperate normal saline (2 L) and metronidazole (1500 mg) in cows with pericarditis.

Ultrasound guided Percutaneous pericardiocentesis and pericardial drainage was found to be useful palliative therapy and helped in successful management of cow with traumatic reticulo pericarditis.

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