



ISSN: 2456-2912

VET 2023; 8(5): 150-152

© 2023 VET

[www.veterinarypaper.com](http://www.veterinarypaper.com)

Received: 01-07-2023

Accepted: 04-08-2023

**Ruthrakumar R**

M.V.Sc., Scholar  
Department of Veterinary  
Gynaecology and Obstetrics  
Veterinary College and Research  
Institute, Namakkal, Tamil  
Nadu, India

**Selvaraju M**

Dean, Veterinary College and  
Research Institute, Namakkal,  
Tamil Nadu, India

**Gopikrishnan D**

Assistant Professor, Department  
of Veterinary Gynaecology and  
Obstetrics, Veterinary College  
and Research Institute,  
Namakkal, Tamil Nadu, India

**Ganesan A**

Assistant Professor, Department  
of Veterinary Gynaecology and  
Obstetrics, Veterinary College  
and Research Institute,  
Tirunelveli, Tamil Nadu, India

**Palanisamy M**

Professor, Department of  
Veterinary Gynaecology and  
Obstetrics, Veterinary College  
and Research Institute,  
Namakkal, Tamil Nadu, India

**Akilkumar D**

Intern Student, Veterinary  
College and Research Institute,  
Namakkal, Tamil Nadu, India

**Ezakial Napoleon R**

Professor and Head, Department  
of Veterinary Gynaecology and  
Obstetrics, Veterinary College  
and Research Institute,  
Namakkal, Tamil Nadu, India

**Corresponding Author:**

**Ruthrakumar R**

M.V.Sc., Scholar  
Department of Veterinary  
Gynaecology and Obstetrics  
Veterinary College and Research  
Institute, Namakkal, Tamil  
Nadu, India

## Ultrasonography: A novel method for diagnosing pre-cervical uterine torsion in a Ewe

**Ruthrakumar R, Selvaraju M, Gopikrishnan D, Ganesan A, Palanisamy M, Akilkumar D and Ezakial Napoleon R**

DOI: <https://doi.org/10.22271/veterinary.2023.v8.i5c.706>

### Abstract

A three-year-old full term pregnant pluriparous Mecheri ewe was presented with the history of anorexia and abdominal discomfort since 2 days. Abdominal palpation revealed presence fetal structures and vaginal examination revealed patent vaginal passage. Trans-rectal ultrasonography revealed right side pre-cervical uterine torsion and trans-abdominal ultrasonography revealed dead fetus with thickened uterine wall. Emergency caesarean section was done to relieve the fetus. Detorsion of the uterus was done intra-abdominally. The ewe recovered uneventfully.

**Keywords:** Uterine torsion, ultrasonographic diagnosis, Mecheri Ewe

### Introduction

Mecheri is the most common breed of sheep reared by farmers in the Salem and Namakkal areas of Tamil Nadu for meat production. Among the obstetrical problems, dystocia shares the major portion with 50% of cases resulting due to maternal causes. Uterine torsion is one of the maternal causes of dystocia which is evidenced by the rotation of the uterus along its longitudinal axis. Uterine torsion is more prevalent in cattle and buffalo, relatively uncommon in sheep and goats, and extremely uncommon in small animals (Selvaraju and Karthick, 2020)<sup>[6, 7]</sup>. Uterine torsion frequently occurs at the end of the first stage of parturition or the beginning of the second stage. Diagnosis of post and pre-cervical uterine torsion in large ruminants could be done based on vaginal and rectal examinations. In small ruminants vaginal examination can quickly identify post-cervical uterine torsion; however, diagnosis of pre-cervical torsion could be seldom done. According to Scott, (2011)<sup>[5]</sup>, ewes or does with incomplete cervical dilatation is misdiagnosed as pre-cervical uterine torsion. Furthermore, pre-cervical torsion in sheep and goats with could be identified only during caesarean sections, emergency slaughter, or post-mortem examinations examinations (Wehrend *et al.*, 2002)<sup>[9]</sup>. Therefore, it is imperative to identify the pre-cervical uterine torsion utilizing more modern diagnostic methods. In the current case, we discuss a unique application of ultrasonography for sheep uterine torsion diagnosis.

### Case history and Observations

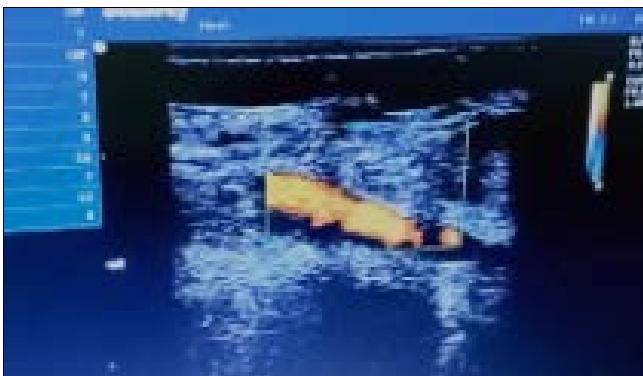
A full term pregnant three year old pluriparous Mecheri ewe was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the history of anorexia and abdominal discomfort since 2 days. Physical examination revealed arched back and other physiological parameters were normal. Vaginal examination revealed patent vaginal passage with closed external os. Abdominal ultrasonography (5 MHz) revealed presence of non-viable fetuses, thickening of uterine wall (Fig. 2), involuting placentomes, detachment of allantois and hyperechoic fetal fluids. The animal was restrained in standing position and trans-rectal ultrasonography (6 MHz) was performed. Trans-rectal ultrasonography revealed narrowing and downward deflection of right cranial uterine artery towards right side (Fig. 1) with resistive index of 0.9. The case was diagnosed as pre-cervical clockwise uterine torsion.

### Treatment and Discussion

Emergency caesarean section was adopted in the present case due to the protraction of the case and to prevent the untoward results of detorsion. The ewe was restrained in right lateral recumbency and left lower oblique laparotomy (Fig. 3) was performed under Inverted – L nerve block with 2% Lignocaine. Two dead male fetuses (Fig. 4) were removed and the uterus was closed by Cushing followed by Lembert suture pattern. The uterus was viable and edematous and detorsion was accomplished by rotating the uterus. The animal was administered with Ringers Lactate 250 mL IV, Enrofloxacin @ 5mg/kg IM, Metronidazole @ 15mg/kg IV, Tramadol @ 1 mg/kg IV for three postoperative days. Skin sutures were removed on the post-operative day and the animal recovered uneventfully.

Uterine torsion in sheep contributed to 4.4% of all maternal causes of dystocia, however, in cattle and buffaloes, the incidence of uterine torsion was 13.97 and 27.46%, respectively (Selvaraju *et al.*, 2020) [6, 7]. The sub-lumbar attachment of broad ligament in does and ewes makes them less susceptible to uterine torsion than cattle, whose broad ligament is attached subilially (Parkinson *et al.*, 2019) [4]. Predisposing variables include rolling, accidental falling, and decreased fetal fluids. Diagnosis of uterine torsion in small ruminants was difficult and only dam showing typical folds in the vagina could be diagnosed with post cervical uterine torsion. The pre-cervical torsion can seldom be diagnosed based on vaginal examination. In the present study, transrectal ultrasonography was used for the diagnosis of pre-cervical uterine torsion based on the location of the uterine artery and its haemodynamics. The result of the present study is in accordance with Sudha *et al.* (2019) [2], who reported B mode and Doppler ultrasonography as a potential method for identifying uterine torsion, with the highest resistive index (0.77) found in the ipsilateral uterine horn with torsion.

The delayed or protracted condition of the present case was indicated by the thickening of the uterine wall, involuting placentomes, detachment of the allantois, and hyperechoic fetal fluids by trans-abdominal ultrasonography. Uterine torsion in small ruminants can be treated by laparohysterotomy (Selvaraju *et al.*, 2012) [8], modified Schaffer's technique (Periyannan *et al.*, 2021) [3], or by simple rotation. However in the present case, due to the altered echotexture of the uterus, laparohysterotomy was performed, thus saving the life of the dam as suggested by Chhavi *et al.* (2021) [1].



**Fig 1:** Narrowing and downward deflection of right cranial uterine artery wrenching towards the torted side (Right side)



**Fig 2:** Increased uterine wall thickness



**Fig 3:** Caesarean section and removal of fetuses



**Fig 4:** Two dead fetuses

### Conclusion

The present case concluded that pre-cervical uterine torsion could be diagnosed based on the trans-abdominal and trans-rectal ultrasonography. Laparohysterotomy should be performed in protracted cases based on the ultrasonography to save the life of the dam.

## References

1. Chhavi G, Murugan M, Ramprabhu R, Sathesh Kumar S. Uterine torsion in small ruminants – outcome and fertility following different management approaches. *Indian J Small Ruminants*. 2021;27(1):139-141.
2. Sudha CM, Unnikrishnan MP, Kurien MO, Abhilash RS, Thirupathy V. Doppler ultrasonographic evaluation of uterine torsion in does *J Vet. Anim. Sci*. 2019;50(2):125-128.
3. Periyannan M, Selvaraju M, Senthilkumar K, Palanisamy M, Gopikrishnan D, Varudharajan V. Unusual incidence of uterine torsion in a mecheri ewe with bicornual twin pregnancy and its successful management. *The Pharma Innovation Journal*. 2021;10(6):01-03.
4. Parkinson TJ, Vermunt JJ, Noakes DE. Maternal dystocia: causes and treatment. In: *Text book of Veterinary Reproduction and Obstetrics*. (10<sup>th</sup> Edn.) Ed: Noakes, D.E Parkinson, T.J. and G.C.W. England, Elsevier, China; c2019, 189
5. Scott P. Uterine torsion in the ewe. *UK Veterinary Livestock*. 2011;16(2):37-39.
6. Selvaraju M, Prakash S, Varudharajan V, Ravikumar K, Palanisamy M, Gopikrishnan D, *et al*. Obstetrical disorders in farm animals: A review. *The Pharma Innovation J*. 2020;SP-9(9):65-74.
7. Selvaraju M, Karthic C. incidence, occurrence, predisposing factors and etiology of uteriune torsion in buffaloes. *Int. J Curr. Microbiol. App. Sci*. 2020;9(9):1326-1333.
8. Selvaraju M, Palanisamy M, Ravikumar K, Manokaran S, Ezakial Napoleon R. Uterine torsion and fetal maceration in a crossbred cow. *Indian Veterinary Journal*. 2012;89:107-108.
9. Wehrend A, Bostedt H, Burkhardt E. The use of transabdominal B mode ultrasonography to diagnose intra-partum uterine torsion in the ewe. *The Veterinary Journal*. 2002;164(1):69-70.