Short Communication

DOI: 10.48165/ijar.2025.46.01.20

The Indian Journal of Animal Reproduction
The official journal of the Indian Society
for Study of Animal Reproduction
Year 2025, Volume-46, Issue-1 (March)

ISSN 0970-2997 (Print)
ISSN 2583-7583 (Online)

Rare Incidence of Umbilical Pseudocyst in a Calf

Nagarajakumar Revathy Bhathra, Chhavi Gupta*, Sabarinathan Akambaram, Prabaharan Vaiyapuri and Ganesan Ajevar

Department of Veterinary Gynaecology and ObstetricsVeterinary College and Research Institute, Tirunelveli – 627358 Tamil Nadu Veterinary and Animal Science University, Chennai, India

ABSTRACT

The present case documents a rare incidence of a Wharton jelly cyst in a bovine fetus and its role as a predisposing factor for incomplete cervical dilatation and subsequent dystocia. The fetus was successfully removed by per-vaginum delivery after cervicotomy and traction.

Keywords: Calf, Cervicotomy, Pseudocyst, Wharton jelly cyst.

How to cite: Bhathra, N. R., Gupta, C., Akambaram, S., Vaiyapuri, P., & Ajevar, G. (2025). Rare incidence of umbilical pseudocyst in a calf.
The Indian Journal of Animal Reproduction, 46(1),101-103.10.48165/ijar.2025.46.01.20

INTRODUCTION

Umbilical diseases are one of the most prevalent postpartum conditions in neonatal calves. The most common umbilical diseases noticed among newborn calves are omphalophlebitis, umbilical hernia, umbilical subcutaneous infection/abscesses, umbilical remnant infections, umbilical abscess (chronic omphalitis) and urachal cysts/ruptures (Gordan, 2020). Umbilical pseudocyst is a rare congenital umbilical disease of prenatal calf characterized by cystic degeneration or localized oedema of the Wharton jelly which may predispose to omphalocele, haemangiomas and patent urachus (Kaushal et al., 2018).

CASE HISTORY AND OBSERVATIONS

A six-year-old full-term pluriparous crossbred HF cow with a history of intermittent contractions for the past 12 hours was presented to the Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli. Owner reported that the animal was restless, experiencing intermittent contractions for the last 12 hours followed by rupture of the water bag however, no foetal expulsion. Further, the owner also stated that a local veterinarian examined the animal but attempts to deliver the fetus failed. The cow was dull, anxious, and exhausted. Clinical examination revealed reduced respiration rate, elevated pulse rate with normothermia. Gynaeco-clinical examination revealed an oedematous vulva with mucoid cloudy copious genital discharge. Per rectal palpation signified the presence of a non-viable foetus in the abdominal cavity. Per vaginal examination revealed 4 finger dilated cervix with anterior longitudinal dorsal-sacral non-viable foetus with both foetal forelimbs extended and right lateral deviation of head and neck. Dam was restrained in sternal recumbency and obstetrical manoeuvres were attempted after washing the perineum with diluted potassium permanganate solution (1:1000), epidural anaesthesia was

*Corresponding author.
E-mail address: chhavigk@gmail.com (Chhavi Gupta)
Received ; 13.08.2024; Accepted 03.02.2025

achieved using 2% Lignocaine hydrochloride (2.5 ml) and 2 litres of lukewarm Carboxy methylcellulose solution was introduced into birth canal, to relieve the foetus mutational repulsion of snared forelimbs beneath the fetal body after flexing the shoulder and elbow joints. William's long Obstetrical hook was applied in the inner canthus of the right eye followed by the hand guided judicious traction to reposition the fetal head. Cervicotomy was performed after keeping both head and forelimbs taut and making a 5 cm long incision into the right dorso-lateral aspect of the cervix involving only the circular muscles. Thus, after achieving sufficient cervical dilation, forced traction was applied and the dead female fetus was delivered along with fetal membranes. Gross examination of the dead fetus revealed the presence of brachygnathism and apparently normal placenta. However, there was a white, translucent, gel-like cystic structure surrounding the edematous umbilical blood vessels near their insertion point into the fetus. Based on the macroscopic findings, the condition was tentatively diagnosed as Umbilical cystic degeneration. Histopathological examination revealed myxomatous degeneration of Wharton jelly with thinning of epithelial lining, thus confirming the condition as Umbilical cord pseudocysts.

TREATMENT AND DISCUSSION

After calving, dam was administered with intrauterine Nitrofurazone – Metronidazole – Urea bolus along with supportive therapy consisting of an intravenous fluid (Normal saline solution, 3 litres IV for 3 days), antibiotics (Ceftriaxone plus tazobactam @ 4.5 g IV for 3 days for 3 days), Calcium boro gluconate (450 ml, IV on the day of dystocia), Chlorpheniramine maleate (10 ml IM for 3 days) Oxytocin (20 IU IM immediately after foetal expulsion), NSAID (Flunixin meglumine @ 1.1 mg/kg for 3 days) and Oral ecbolics (Liquid. Uterovet 100ml bid PO for 3 days). Thus, the animal had an uneventful recovery.

Figure 1a). Delivered foetus after traction

Figure 1b). Close view of pseudocyst

Marino (2004) stated that umbilical pseudocyst as a cystic myxomatous degeneration of Wharton jelly surrounding the umbilical cord without any epithelial lining resulting in a translucent large cystic mass without entrapped intestines or patent duct. It is also known as umbilical cord edema, pseudotumor, Wharton's jelly cyst, angiomyxoma, hemangio fibromyxoma and telangiectatic myxosarcoma. These findings were in agreement with our case study.

According to Kilicdag et al. (2004), Wharton jelly cyst occurs as a result of autosomal trisomy 18 chromosomal abnormality. This chromosomal abnormality usually results in brachygnathia inferior, ascites congenitus and incomplete interventricular septum and umbilical anomalies (Makinen *et al.,* 1987). Presence of Umbilical cyst and brachygnathism in our case is in concurrence with above findings.

According to Kaushal et al. (2018), cystic myxomatous degeneration of Wharton jelly causes altered vascular permeability of umbilical blood vessels which in turn causes increased maternal circulation of alpha fetoproteins. Increased level of alpha fetoprotein in maternal circulation predisposes to hypocalcemia (Rizzo et al., 2019). Maternal hypocalcemia impairs myometrial contractility resulting in incomplete cervical dilation during parturition (Chouksey et al., 2022). These findings might be the probable etiopathogenesis for incomplete cervical dilation and resultant dystocia in our case study.

CONCLUSION

The present case documents the rare incidence of umbilical pseudocyst in a calf and its role in the foetal cause for

incomplete cervical dilation and subsequent dystocia.

ACKNOWLEDGEMENT

The authors are thankful to the Director of Clinics, TANUVAS and Dean, Veterinary College and Research Institute, Tirunelveli for supporting this case study successfully.

CONFLICT OF INTEREST

None

REFERENCES

Chouksey, S., Kumar, J., Sahu, S., Yadav, P., Rajput A. S. and Chourasia, A. (2022). Incomplete dilation of cervix in large animals: A review. *J. Pharm. Innov.,* **11**(2): 573-578.

Gordon, E.D. (2020) Sorting out umbilical abnormalities in the young calf. In: *Fourth Recent Graduate Conference. American Association of Bovine Practitioners*. Knoxville, Tennessee. February 9-10, 2020. pp. 13.

Kaushal, A., Mehra, R., Dubey, S., Goel, P., Sheokand, S. and Kaur, N. (2019) Umbilical cord cyst: a diagnostic dilemma. *Int. J. Reprod. Contracept. Obstet. Gynecol*., **8**:1207-1210.

Kilicdag, E.B. and Kilicdag, H. B. (2004). Large pseudocyst of the umbilical cord associated with patent urachus. *J. Obstet. Gynaecol. Res*., **30**: 444-447.

Makinen, A., Alitalo, I. and Alanko, M. (1987). Autosomal Trisomy in a Heifer. *Acta. Vet. Scand.* **28**: 1-8.

Marino, T. (2004) Ultrasound abnormalities of the amniotic fluid, membranes, umbilical cord, and placenta. *Obstet. Gynecol. Clinics. North. Am*., **31**(1):177- 200.

Rizzo, A., Galgano, M., Mutinati, M. and Sciorsci, R. L. (2019). Alpha-fetoprotein in animal reproduction. *Res. J. Vet. Sci.,* **123**: 281-285.