

ULTRASOUND AIDED RETRIEVAL OF IATROGENIC FOREIGN BODY IN TEAT OBSTRUCTION IN CROSSBRED COWS

M. VENKATESAN*, A. KUMARESAN¹, P. TAMILMAHAN¹, S. SENTHILKUMAR²,
M. VEERASELVAM and N. PREMALATHA

Department of Veterinary Medicine, ¹Department of Veterinary Surgery and Radiology, ²Veterinary Clinical Complex, Veterinary College and Research Institute, TANUVAS, Orathanadu- 614 625, India

Received: 13.08.2020; Accepted: 28.08.2020

SUMMARY

Crossbred Jersey cows with the history of teat swelling and cession of milk were diagnosed with teat obstruction due to foreign body. With the ultrasound guidance, the foreign body was located and retrieved by ophthalmic artery forceps and discussed.

Keywords: Foreign body, Plastic ear bud, Teat obstruction, Ultrasonography

Blind teat and milk flow disorders may be congenital or acquired. Acquired lesions may be due to internal injury caused by trauma or stripping of milk by knuckling practices. Treatment of mastitis by intramammary administration of medicaments causes indurations of udder or internal teat mucosal thickening leading to a milk flow disorders in subsequent lactation. Teat obstruction caused by local tissue swelling to iatrogenic foreign body trauma by milkman or dairy farmers is reported to be uncommon and leading to much complication like thickening of mucosa, fibrosis, stenosis according to nature of foreign body and its location. The objective of this study is to report the ultrasound evaluation of teat flow disorder and ultrasound aided retrieval of foreign body and surgical management of teat obstruction.

Recently calved 5 crossbred Jersey cows of 2nd lactation of body weight ranging from 280 -350 kg each were presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu, Thanjavur, Tamil Nadu with the history of teat block of forequarters (2 cows of right teat block & 3 cows of left teat block), teat swelling and complete cessation of milk let down while stripping for the past two days due to attempt by the milkmen to relieve the teat block with ear buds (2 cows), intramammary antibiotic tubes (1 cow), plastic broken teat siphon (2 cows) and the attempt was failed due to lodging of the foreign body in the teat cistern.

All the animals were physically examined thoroughly and vital parameters recorded were within normal range. Clinical examination of the affected quarter revealed normal consistency of udder parenchyma in 3 animals but was inflamed, swollen and painful on palpation of the other two animals. Examination of the teat in 2 cows revealed hardness, thickened wall and slippery tissue in teat cistern, whereas, in other 3 cows teat cistern were hardened entirely.

The other quarter teats in all the animals were of normal texture, consistency and milk flow. Hence, an attempt was made to relieve the obstruction with a blunt 16-gauge needle/metal teat syphon insertion into the teat cistern. Resistance was felt while forwarding the blunt needle or teat syphon in the teat cistern. So, on the basis of history and suspicion for foreign body in the teat cistern on clinical examination, diagnostic ultrasonography of the teat was performed as described by Cartee *et al.* (1986) and Venkatesan *et al.* (2016) using Esaote My lab. 1 ultrasound machine with 2.5 to 5 MHz curvilinear array transducer on the standing animal.

Ultrasonogram of teats revealed mucosal wall thickening and hyper echoic structure of an average of 5.39 cm (n=5) extending from mid cistern to rosette of Furstenberg near the teat canal (Fig. 1a, b, c) of the affected animals. All the animals were restrained in standing position and the affected teat was prepared aseptically. Inj. Lignocaine hydrochloride 2% solution was administered as teat block or ring block around the base of the teat and also injected into the teats to provide adequate analgesia of the teat mucosa. In two cows, under ultrasound guidance, the foreign body *viz.*, plastic ear bud and intramammary antibiotic plastic tube tips and plastic broken teat siphon (Fig. 2 a, b, c) in other three cows were pushed down the teat canal and retrieved using the ophthalmic artery forceps by single traction method through the teat orifice (Querengässer *et al.*, 2000).

Following the retrieval of the foreign body, the teats of all the animals were flushed with normal saline to remove blood clots, tissue debris or stagnated milk. Milk flow was streamlined immediately after removal of the foreign body. All the animals were treated with Inj. Streptopenicillin 2.5 g IM, Inj. Meloxicam 0.5mg/kg b.wt IM, Inj. Chlorpherramine maleate 0.5 mg/kg b.wt IM, and topical application of Inflamm vet cream® (Himalaya

*Corresponding author: drvenksmvsc88@gmail.com



Fig. 1. (a & b) Ultrasonography imaging of teat showed hyper echoic foreign body in teat cistern (arrow) measured around 7.11 cm length, (c) Mid cistern teat wall thickening with hyper echoic foreign body.



Fig. 2a, b, c. Photograph showing retrieved ear bud plastic tube (a), Plastic teat siphon (b, c)

Animal Health) on the swollen teat for 3 consecutive days. Animals had uneventful recovery after 5-10 days.

Teat obstruction may either be congenital or acquired one. Acquired teat obstructions are quite common in transition cows due to crush injury or covered teat injury by suckling of calves (or) faulty milking practice by the owner especially knuckling method. Iatrogenic foreign bodies causing teat obstructions was common entity reported in filed condition because of self-medication by owner or by quacks. Abu-Rafee and Pawde (2015) reported teat obstruction in buffaloes due to broken glass bangle into the teat canal. Dipakmar *et al.* (2019) reported milk flow disorder in cows due to lodgment of foreign bodies viz; metallic teat siphon, artificial insemination straw and sheath used by milk man (or) dairy farmers. In the present study, the lodgment of plastic ear buds tube and antibiotic infusion tube tips coincide with the findings of Dipakmar *et al.* (2019).

To conclude, awareness should be given to the milkman or dairy farmers to avoid the usage of inanimate objects to relieve teat obstruction which are the source of inflammation, microbial growth, nidus for fibrosis and stricture of teat canal. In our study, teat obstruction due to

iatrogenic foreign body were diagnosed and retrieved successfully wherein ultrasonography proved to be an accurate diagnostic tool in detection, localization and assisted for removal of foreign body which caused teat obstruction in cows. The ring block/teat blocks provided sufficient analgesia for retrieval of foreign body and ophthalmic artery forceps were found ideal to retrieve the foreign body through teat canal.

REFERENCES

- Abu-Rafee M. and Pawde, A.M. (2015). Iatrogenic foreign body in a previously blind teat: Case Report. *Int. J. Vet. Health Sci. Res.* **3(4)**: 58-59.
- Cartee, R.E., Ibrahim, A.K. and Mcleary, D. (1986). B-mode ultrasonography of the bovine udder and teat. *J. Am. Vet. Med. Assoc.* **11**: 188.
- Dipakmar, P.J., Jothi, A. and Balagopalan, T.P. (2019). Surgical and ultrasound guided retrieval of iatrogenic foreign body from teat in cows - A clinical study. *World J. Vet. Sci.* **7**: 5-9.
- Querengasser, K., Geishauser, T, Querengässer, J., Bruckmaier, R and Fehlings, K. (2000). Teat dilators as free foreign bodies in the bovine teat - two case studies. *Bovine Pract.* **34(1)**: 41-45.
- Venkatesan, M., Sumathi, D., Selvaraj, P., Vijayarani, K and Nambi, A.P. (2016). Comparison of clinical and ultrasonographic diagnosis of milk flow disorders in hand milking dairy cows. *Indian Vet. J.* **93(8)**: 72-74.