



SURGICAL MANAGEMENT OF FOUR TEAT OBSTRUCTION IN A COW USING THELORESECTOSCOPE

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ABSTRACT

This paper is about a six year old cross bred jersey cow, which was presented five days after third calving with all four teat obstruction. On clinical examination milk flow was not observed from all the quarters. Ultrasound scanning using 7.5 MHz liner probe by water bath method without and with normal saline infused into the teat as contrast which revealed the presence of obstruction at the mid teat level was relieved Using theloressectoscope with under water diathermy unit. It is a very effective in removing the obstructive mass with less hemorrhage, charring of the obstruction prevent recurrence of the condition.

KEYWORD: Teat obstruction, Theloresectoscope, ultrasound, cow teat.

INTRODUCTION

Teat obstructions resulting in obstructed milk flow may be focal or diffuse. Most teat cistern obstruction result from proliferative granulation tissue, mucosal injury or fibrosis all secondary to previous trauma (George *et al* 2008). Teat cistern obstruction interferes with effective milk delivery to streak canal while milking. Ultrasonography is an important noninvasive diagnostic tool to diagnose milk flow disorders (Szencziová and Strapák 2012). By water bath method morphometry of obstructive mass was assessed (Arul jothi *et al*) normal saline was used as a contrast. Parikh (2008) presented that, the obstruction in teat were commonly ripped off using teat instruments which cause excessive damage and chronic inflammation of the alveolar tissue of the teat. Teat cistern obstruction can be successfully treated with minimal invasive theloressectoscopy without causing much postoperative complication. Teat cistern obstruction in all four teats are not commonly noticed. The present paper is about the surgical correction of four teat obstruction in a cow using theloressectoscopy.

MATERIAL AND METHODS

A 6- year old, jersey cross bred cow (400 kg body wt), five days after third calving was presented at the Teaching Veterinary Clinical Complex, Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry, with a history of complete absence of milk flow from all the four teats and the animal is apparently normal in other conditions. On clinical examination, all four quarters of the udder was filled with milk and there were no palpable lesions noticed in all teats. No milk

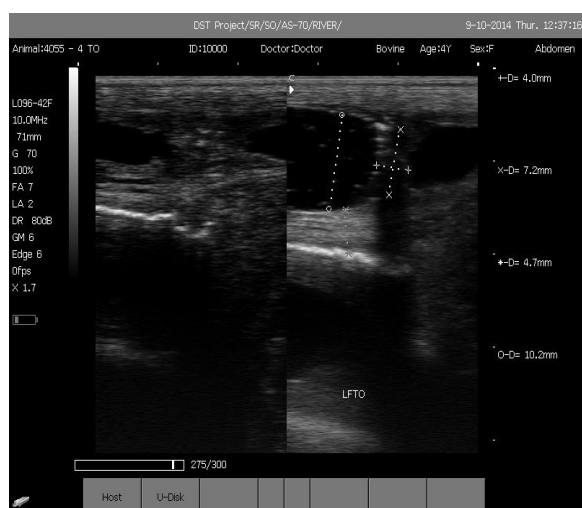
flow was observed on milking of from all the quarters. Ultrasound scanning using 7.5 MHz liner probe by water bath method without and with normal saline infused into the teat as contrast which revealed the presence of obstruction (Fig 1) at the mid teat with thickened teat walls and surgical correction was advised.



Right fore teat



Right hind teat



Left fore teat



left hind teat

Fig 1: Ultrasound scanning without and with normal saline infused into the teat as contrast showed hyperechoic nature of the obstruction

The animal was sedated with Inj. Xylazine @ 0.1 mg/kg b. wt intravenously and performed ring block with 2%

Lignocaine hydrochloride at the base of the teat. The animal was controlled in lateral recumbency and the affected teats were prepared aseptically. The theloressectoscope was inserted into the teat cistern via streak canal. All four teats were having complete occlusion of the teat (Fig: 2) hyperemic and fibrous in nature.



Fig 2: Theloresectoscopic view of the hyperemic obstructive mass

The teat cistern was filled with glycine and simultaneous cutting and coagulation of the obstructive lesion at its origin in the teat cistern was performed using a wire snare connected to an under water diathermy unit (cutting 70 and coagulation 80). After resection, the quarter was flushed with normal saline to remove the blood clots/ tissue remnants and milk. The milk was collected for examination of color, consistency, pH and California mastitis test. The sterile prosthetic tube made up of modified polyvinyl chloride was introduced into the lumen and fixed to the skin; a sterile condom was applied over the entire teat to prevent from contamination. Postoperatively, the quarters were flushed with normal saline for 5 days. The animal was administered with Inj. Streptopenicillin- procaine penicillin @ 10mL mg/ kg b.wt and inj. Streptochrome 10 IM daily for 5days. The tube was removed on 5th post operative day and ultrasound scanning was performed.

RESULTS AND DISCUSSION

Ultrasound scanning of the teats revealed the presence of obstruction at the mid teat with thickened teat walls. The length and the width of the obstructive masses were, in right fore teat Length 11.60 mm and width 4.46 mm, in right hind teat length 7.70mm. and width 4.70 mm, in left fore teat the length 7.20 and width 10.60 mm and left hind teat showed length 12.20 and width 5.10 mm. On theloscopic examination complete obstruction of the lumen with hyperemia noticed.

After theloelectroresection nearly 60% of the teat patency was achieved (fig 3).

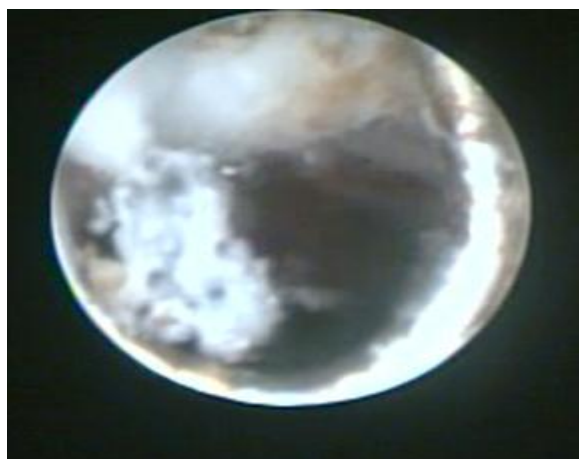
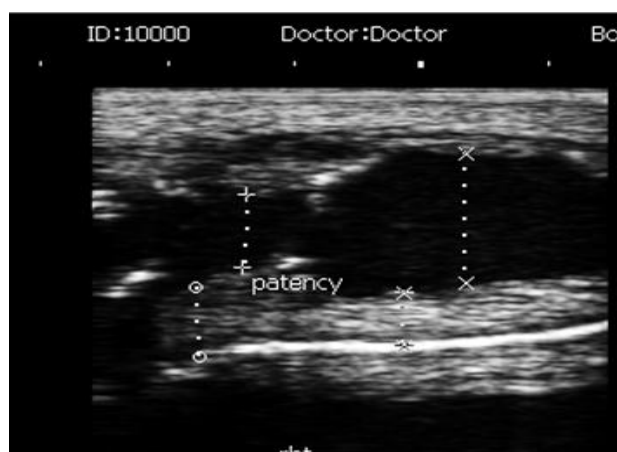


Fig3: Patency of the teat noticed after the theloelectroresection

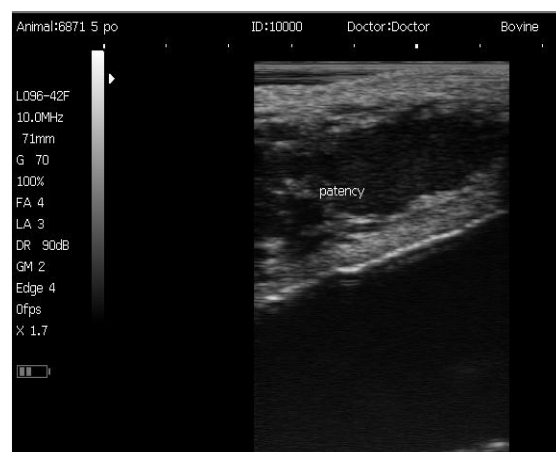
The milk collected from the teats were normal in color, consistency, pH and showed negative for California mastitis test. On postoperative day 5, ultrasound scanning revealed clear patency of the teat cistern in all the four teats (Fig 4) and milk flow was observed and milk from all the quarters were apparently normal. The animal recovered uneventfully with out any complications.



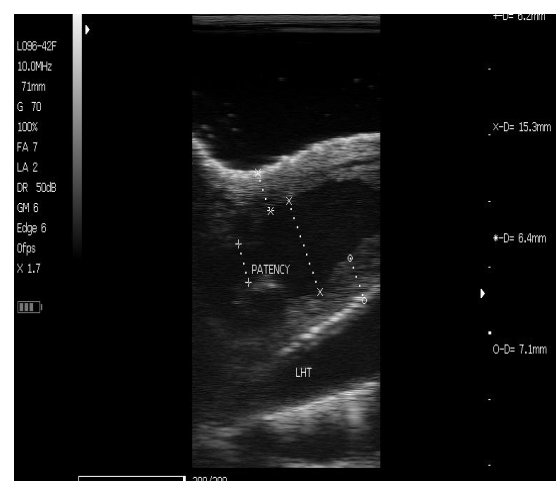
Right Fore teat



Right hind teat



Left fore teat



Left hind teat

Fig:4 5th post operative day and ultrasound scanning was performed revealed the clear patency of the teat cistern

Full arm milking was advised for follow up. Animal was able to deliver milk through streak canal in all four teats when it was assessed six months after the surgery. All Four teat obstruction is not commonly observed in cattle. Using normal saline as contrast in for ultrasound scanning is very useful to assess the obstructive lesions precisely. Surgical correction of the teat obstruction at the cistern using a teat bistoury or teat tumor extractor is relatively difficult and re-establishment of patency of the lumen using tubes made up of plain and modified polyvinyl chloride was found partially successful (Aruljothi *et.al* 2009b) Teat endoscopy as an excellent diagnostic procedure for covered teat injuries. Milk flow disorder can be diagnosed easily and precisely by Theloscopy and allows to treat injuries according to a precised diagnosis and to monitor the treatment. (Rathod, *et.al.*, 2009). Vangroenweghe *et.al.*, (2006) reported that theloscopy using an endoscope had been proven quicker, less invasive, non traumatic and free of major postoperative complications, such as hemorrhage, inefficient wound healing and mastitis. Using thelorescroscope with under water diathermy unit is very effective in removing the obstructive mass with less

hemorrhage, charring of the obstruction prevent recurrence of the condition.

CONCLUSION

Teat obstruction can be treated effectively by using Theloresecoscope with under water diathermy unit in removing the obstructive mass with less hemorrhage and charring of the obstruction.

CONFLICT OF INTEREST

We declared no conflict of interest.

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