

Clinical Management of Fibrinous Vaginal Mucosa Adhesion - A Dystocia Complication in a Cow

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Abstract

A three year old crossbred cow in estrus was presented with history of dystocia before three months. The cow exhibited estrous twice without any vaginal discharges. Per-rectal examination revealed a fluid filled pouch like structure on floor of pelvic cavity with uterine horn present deep in abdominal cavity. Non- passage of fingers on per-vaginal examination confirmed adhesions of vaginal mucosa. A blunt scissor was used carefully to separate adhesions without any damage to mucus membranes. The cervical mucus of both the succeeding estrus, so deposited in pouch like structure, was scooped out from vagina. Intrauterine and parenteral antibiotics along with Prednisolone and Serratiopeptidase lead to complete recovery and resumed normal estrus within three weeks.

Keywords: Adhesion; dystocia; fibrinous; vaginal mucosa

Introduction

Retained placenta, prolapse of uterus or cervix, hind quarter paralysis, uterine infection and adhesions are common complications of dystocia in bovines. When there is inadequate lubrication during dystocia, tears to any part of genital tract may lead to formation of fibrous tissue blockage, resulting in adhesion and blockage. This disorder indirectly prolongs calving to conception interval and dry period causing great economic loss to farmer in terms of milk production. Therefore, ovaries and genital tract should be examined per rectum to determine presence of gross abnormalities, such as severe adhesions or uterine infection in repeat breeder or cyclic non-breeder cows (Arthur *et al.*, 1996) The present report puts on record a case of vaginal blockage due to fibrinous adhesion of mucosa in a crossbred cow previously treated for protracted dystocia.

History and Clinical Observation

A 3 year old Jersey crossbred cow was presented for artificial insemination with history of being in estrus since 12 hrs. The cow had delivered a dead fetus 2 months back under forced traction. It was apparently normal after delivery and was giving

18 litre of milk daily. First post partum estrus was observed after a month of calving and again at 15 days interval, without estrual mucus discharge. The cow was examined to confirm stage of estrus. No appreciable part of tubular genital organ could be palpated but further exploration revealed presence of uterine horn deep in abdominal cavity. A fluid filled pouch like structure was found on floor of pelvic cavity. Per-vaginal examination was made but it was impossible to pass even a finger through the vagina due to adhesion. It was diagnosed to be a case of vaginal blockage due to fibrinous adhesion diagnosed as pouch filled with mucus.



Fig. 1: Manual removal of mucus

Treatment

The cow was given epidural anaesthesia using 2ml of 10% Lignocaine hydrochloride. Then with the help of blunt scissors the membranous layers were incised carefully and removed without

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damaging vaginal mucous membrane. After further penetration, it was possible to palpate the cervix per-vaginum and there was a pool of thick mucus at anterior end of vagina. Later, mucus was drained manually. Nearly 3-4 litres of clear, colourless and odorless mucus were drained out. Vaginal passage was flushed with 100 ml of Metricare^a infusion to eliminate secondary bacterial infection. Parenteral antibiotics (Amoxycillin Sodium 2 gm and Sulbactam Sodium 1gm) were advised to be given for 3 days daily to prevent further infection. Proteolytic and fibrinolytic enzyme supplements (Serratiopeptidase) was recommended to be given orally daily. Steroidal anti-inflammatory (Prednisolone) was given 10 ml daily for 3 days. No adhesion in vaginal passage was observed during follow up examination, every 3-4 days, after treatment. Complete genital tract was palpable distinctly per-rectally and was located in proper position. Though milk production was reduced for some days following treatment but it resumed to normal production within a week of treatment. The animal came to estrus with normal signs of mucosal discharge after 3 weeks of treatment.

Discussion

Adhesions are fibrous bands that are formed between tissues and organs, often as a result of injury during surgical operations. The body deposits fibrin into injured tissues which acts like a glue to seal the injury and builds fledgling adhesion. This process persists when production or activity of fibrinolytic enzymes which are responsible for limiting fibrinous adhesion, are compromised because of injury. If this is allowed to happen, tissue repair cells such as macrophages, fibroblasts and blood vessel cells, penetrate into fibrinous adhesion, and lay down collagen and other matrix substances to form permanent fibrous adhesion. Foreign bodies accidentally contaminating operative field during surgery also play a role in adhesion formation (Torre, 2002).

During handling dystocia, excessive traction or traction in an improper manner or with fetus in an

abnormal presentation, position and posture may result in trauma, laceration, rupture to soft structures of birth canal (Roberts, 1986). There are more chances of adhesions between parts of reproductive organ which can result in infertility or sterility. Fibrinous adhesions of mucosa to mucosa may need to be gently broken down. The proteolytic and fibrinolytic enzyme serratiopeptidase used in present case as an adhesion barrier acts upon inflammation by thinning the fluids in body that collect around injured areas and increases fluid drainage. This also enhances tissue repair and reduces pain. Serratiopeptidase also has unique ability to dissolve dead and damaged tissue that is a by-product of healing response without harming living tissue (Mairi, 2005). Divers and Peek (2008) reported that careful douching of vagina with mild disinfectant should be followed by application of oily antiseptic or antibiotic ointments that have antimicrobial and lubricant properties to deter side-to-side mucosal adhesions in vagina or vulva. Early diagnosis and management of complications of dystocia are necessary to restore normal fertility and productive capability of affected animals.

References

- Arthur, G.H., Noakes, D.E., Pearson, H. and Parkinson, T.J. (1996). Veterinary Control of Herd Fertility. In *Veterinary Reproduction and Obstetrics*. 7th Edn. W.B. Saunders Company Ltd., London. p: 510-56.
- Divers, T.J. and Peek, S.F. (2008). 'Reproductive diseases' in *Rebhun's Diseases of Dairy Cattle*. Elsevier Health Science., 2nd Edn. St. Louis, Missouri. pp: 419.
- Mairi R. Ross (2005). *Serratiopeptidase: The Miracle Enzyme*. [http:// leadspharma. in/pdf/ Serratiopeptidase -The-Miracle-Enzyme.pdf](http://leadspharma.in/pdf/Serratiopeptidase-The-Miracle-Enzyme.pdf)
- Roberts, S.J. (1986). *Veterinary Obstetrics and Genital Diseases*. 2nd Edn., Edwards Brothers, Michigan., pp: 254.
- Torre, M., Favre, A., Pini Prato, A., Brizzolara, A. and Martucciello, G. (2002). Histologic study of peritoneal adhesions in children and in a rat model. *Pediatr. Surg. Int.* **18**: 673-76.

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