

## COMPLICATED CERVICO-VAGINAL EVERSION IN TWO MURRAH BUFFALO COWS FROM THE SAME RANCH

**Igor Louzada Moreira, Anna Beatriz Veltri Peneiras,  
José Renato Junqueira Borges and Antonio Carlos Lopes Câmara\***

### ABSTRACT

This report presents complicated cervico-vaginal eversion in two Murrah buffalo cows from the same ranch following normal calving. Both eversions occurred within 48 h after parturition, but the owner neglected the cases and only requested veterinary assistance after 15 days. The more severely affected was an 8 years old multiparous buffalo cow with extensive laceration of the vaginal mucosa exposing a necrotic urinary bladder wall, and also a necrotic rectal prolapse. The second one was a 3 years old primiparous buffalo cow presenting the entire vaginal mucosa and cervix protrude through the vulvar lips with entrapment of the urinary bladder. According to these findings, vaginal eversions were classified in grade 4b and 3, respectively. The delay by the rancher in seeking specialized veterinary care severely worsened the prognosis in these cases. Vaginal eversion must be treated as a reproductive emergency and producers should also be educated to seek veterinary assistance as fast as possible.

**Keywords:** *Bubalus bubalis*, buffaloes, cervix, Murrah buffalos, nutritional imbalance, reproductive emergency, vaginal prolapse

### INTRODUCTION

Reproductive emergencies most often present as primary reproductive problems that threaten the life or future reproductive performance of the patient (Miesner and Anderson, 2008). In buffaloes, vaginal and cervical eversion occur mostly in the last trimester of gestation or immediately after parturition usually associated with dystocia or retained fetal membranes (Yimer *et al.*, 2016; Derar *et al.*, 2018). Therefore, the present work aimed to report complicated cervico-vaginal eversions in two Murrah buffalo cows from the same ranch after normal calving.

### CASE PRESENTATION

The rancher stated that each buffalo cow gave birth to a normal buffalo calf with no complications during parturition. The cows and calves were released on the paddock with the rest of the herd (about 80 buffaloes), and on the next day presented vaginal eversion. The cervico-vaginal eversions were neglected and the owner requested veterinary assistance after 15 days.

During clinical evaluation, both buffalo

cows were alert and presented normal parameters (heart and respiratory rate, rectal temperature, and ruminal motility). Gynecological evaluation was performed after mild sedation (xylazine: 0.025 mg.kg<sup>-1</sup>, IV) and epidural anesthesia (5 mL of 2% lidocaine). Both buffalo cows presented severe cervicovaginal eversion. The more severely affected (BC 1) was multiparous and about 8 years old, presenting extensive laceration of the vaginal mucosa with necrotic tissue, exposing the also necrotic urinary bladder wall. There was also prolapse of the rectum with extensive necrosis (Figure 1). The other buffalo cow (BC 2) was primiparous and about 3 years old; presenting the entire vaginal mucosa and cervix protrude through the vulvar lips with entrapment of the urinary bladder (Figure 2).

After proper cleaning and emptying the urinary bladders by urethral catheterization, several attempts to reduce both vaginal prolapses failed. The everted tissue presented severe fibrosis and large amounts of necrotic tissues, making impossible do replace it. Therefore, the option of surgical correction by intravaginal approach (Nayak and Samantara, 2010) was offered for the owner, who after cost benefit analysis opted to slaughter both cows.

## DISCUSSION AND CONCLUSION

Etiologic factors of cervico-vaginal prolapses in buffaloes may be attributed to nutritional factors, hormonal imbalance, seasonal-management, and hereditary predisposition (Yimer *et al.*, 2016). Dietary factors include poor quality forage, hypocalcemia, high estrogenic-content foodstuffs (legumes and soybean meal), and overcrowding (Miesner and Anderson, 2008).

Estrogen is a potent inhibitor of bone calcium resorption and elevated levels could plausibly, although not scientifically proved, increase the risk of uterine prolapse (Prado *et al.*, 2016; Derar *et al.*, 2018). Since both buffalo cows are from the same ranch, the herd nutritional diet was better investigated and the micro- and macro mineral imbalance corrected.

A recent study in cattle classifies vaginal prolapses into 4 grades, according to the severity of eversion and the extent of injury (Prado *et al.*, 2016). Accordingly, BC 1 and BC 2 presented grade 4b and Grade 3 vaginal eversion, respectively. In Grade 3 vaginal eversion, the entire vaginal mucosa and cervix protrude continuously through the vulvar lips, and the urinary bladder is entrapped within the everted tissue. The exposed cervical seal may liquefy, allowing bacterial contamination of the uterus, placentitis, and death of the fetus (Miesner and Anderson, 2009; Prado *et al.*, 2016). Grade 4b eversion is considered the most severe form in which the cervicovaginal eversion persists for such a duration that the entire vaginal mucosa appears necrotic and fibrotic. Infection may become so extensive that the urinary bladder becomes necrotic and septic peritonitis may ensue (Prado *et al.*, 2016). Many techniques of preventing vaginal or cervical eversion after proper correction have proved to be effective, and the technique chosen depends on the condition of the everted tissue (Miesner and Anderson, 2009; Yimer *et al.*, 2016). Recently, caesarian section in a full term pregnant buffalo cow with a dead fetus was also presented as the last resort to treat a non-reducible cervico-vaginal prolapse (Derar *et al.*, 2018).

The delay by the rancher in seeking specialized veterinary care severely worsened the prognosis in these cases. Pre or postpartum vaginal or cervical prolapses should be replaced



Figure 1. Grade 4b cervicovaginal and rectal prolapses in buffalo cow 1 after proper cleaning showing severe rectum mucosa necrosis and vaginal laceration exposing the urinary bladder (needle draining urine). Inset: Closer look of the vaginal laceration exposing the necrotic wall of the urinary bladder (yellow arrow).



Figure 2. Buffalo cow 2 with Grade 3 vaginal prolapse. (A) Aspect of the cervicovaginal eversion upon arriving at the farm. (B) After proper cleaning, the entire vaginal mucosa and cervix (yellow arrow) are visualized protrude through the vulvar lips. Urethral catheterization confirmed the entrapment of the urinary bladder, and severe fibrosis preclude replacement.

and secured promptly before contamination, laceration, sepsis, fibrosis, and necrosis occur. Vaginal eversion must be treated as a reproductive emergency and producers should also be educated to seek veterinary assistance as fast as possible.

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