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SUCCESSFUL SURGICAL MANAGEMENT OF PERINEAL HERNIA IN MURRAH BUFFALOES

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ABSTRACT

Three female Murrah buffaloes with soft, painless swellings at the right side of vulva were presented. The size of the swelling was increasing gradually. All three buffaloes had a history of recent parturition and in all three animals status of defecation was normal. On rectal palpation, urinary bladder was not palpated in all the three buffaloes. At the time of presentation, all the buffaloes were in good health, and all the body parameters were within normal range. The surgical management of perineal hernia was done under epidural anesthesia and local infiltration. Satisfactory post-operative recovery was observed. Postoperative medication included inj. A.C Vet 15 mg/kg twice daily for 5 days, inj. Gentamicin 4 mg/kg once daily for 5 days and inj. meloxicam 0.2 mg/kg once daily for 3 days.

Keywords: *Bubalus bubalis*, buffaloes, perineal hernia, swelling, Murrah

INTRODUCTION

The protrusion of abdominal or pelvic organs through a damaged pelvic diaphragm, which supports the rectal wall, is the hallmark of a perineal hernia (Ferreira and Delgado, 2003). The inappropriate displacement of the pelvic organs into the perineal region is caused by a weakening of the pelvic diaphragm. The precise etiology of muscle weakness remains unclear; nevertheless, several reasons have been suggested, including neurogenic problems, senile muscle atrophy, congenital susceptibility, prostatic disease, chronic constipation, myopathies, and hormonal changes (Hedlund, 2002). External trauma, causing damage to the pelvic diaphragm and surrounding muscles of the perineal area, is a common factor in the occurrence of perineal hernia. The condition is further complicated by severe abdominal straining during defecation and micturition, leading to the herniation of the urinary bladder and other abdominal viscera (Shridhar, 2011). History, clinical symptoms, rectal examination, and results from radiographic and ultrasonographic evaluations are the main factors used in the diagnosis (Dean and Bojrab, 1996). It is rare to find reports of perineal

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hernia in buffaloes (Malik *et al*., 2012) and cows (Tyagi and Singh, 1996), however it is common in small animals and uncastrated male dogs (Kumar *et al*., 2016; Weaver, 1981).

In this paper, we present three rare cases of perineal hernias in female Murrah buffaloes and detail their successful surgical management.

MATERIALS AND METHODS

Three female Murrah buffaloes (buffalo 1 to 6 year old, body weight 415 kg, 2 to 7 year old, body weight 425 kg and 3 to 9 year old, body weight 475 kg) were presented with a soft, painless swelling at the perineal region. Swellings were first noticed by the animals' owners 40 days, 20 days and 15 days, respectively before presentation of the case at the large animal hospital, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana. Sizes of the swellings were increasing gradually in all three buffaloes. All three buffaloes had a history of recent parturition. In all three animals status of defecation was normal. At the time of presentation, all the buffaloes were in good health, and all the body parameters were within normal range.

Upon visual inspection of the perineal region swellings were noted lateral to the right vulvar lip in all three buffaloes (Figure 1). On rectal palpation, urinary bladder was not palpated in all the three buffaloes. Reproductive tract examination revealed no post calving abnormality. The swellings were reduced in size by manual pressure with defined hernial ring. After lifting and pressing of the swelling, the animals voided out urine and swelling was reduced. A clear hernia ring was felt in perineal region with 4 to 5 cm in diameter. All three buffaloes were treated by local veterinarians but did not yield favorably.

Ultrasonography of the perineal swelling revealed an anechoic area (retroflexed urinary bladder) in all three buffaloes. On the basis of rectal palpation and ultrasonographic findings, the swellings were diagnosed as unilateral perineal hernia. Due to entrapment of the urinary bladder, immediate surgery was planned.

RESULTS AND DISCUSSIONS

Preoperatively, an intramuscular injection of antibiotic (inj. Ampicillin + Cloxacillin 10 mg/kg) was administered. 6 mL 2% lignocaine hydrochloride was injected epidurally into the sacrococcygeal space and linear infilteration over perineal swelling was done. The buffaloes were restrained in a standing position in a cattle crate, with their tails pulled and fixed over their backs. A temporary purse-string suture was placed around the anal opening. The skin on the perineal area and base of the tail was liberally clipped, aseptically prepped with chlorhexidine and routinely draped.

A dorso-ventral 15 cm approx. linear skin incision was made over the perineal hernia. The skin and underlying fascia were separated (Figure 2). There were no adhesions identified in the herniated bladder (Figure 3) and after manual decompression (Figure 4a) it was repositioned to its normal anatomic position (Figure 4b).

Following this, the hernia openings were located, and two layers of sutures were made using polydioxanone no. 2 suture material (Figure 5). Following herniorrhaphy, silk no. 2 was used to suture the skin in a cross mattress. As soon as the procedure was over, the purse string sutures were taken out. Liquid betadine and loraxane spray were used to apply an antiseptic dressing, which

Figure 1. Presence of perineal swelling (Pre-Operative).

Figure 2. After applying purse string suture over anal opening, skin incision was made.

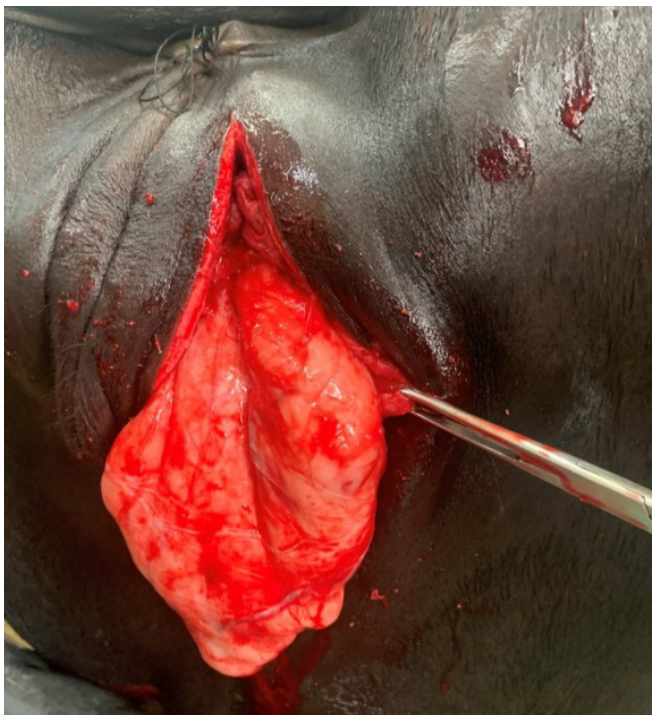

Figure 3. Herniated urinary bladder.

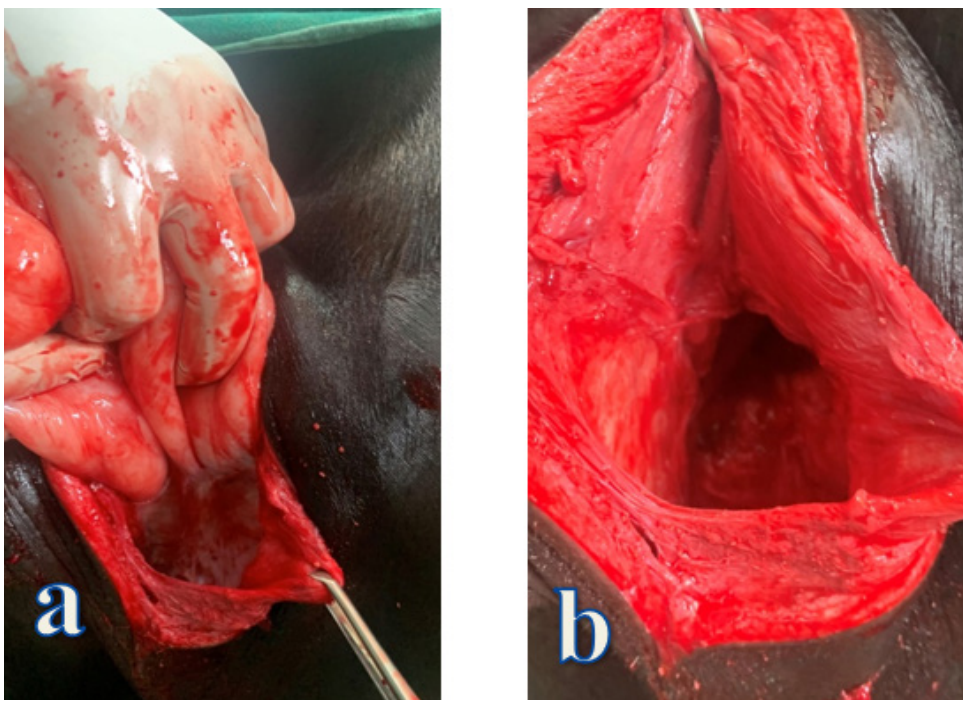

Figure 4. After manual decompression, urinary bladder was repositioned.

Figure 5. Suturing of hernia ring.

Figure 6. Follow up; a) 12 days, b) 1 month.

was prescribed to be applied continuously until the wound healed.

Broad spectrum antibiotics (injections of ampicillin + cloxacillin at 10 mg/kg, twice daily, intramuscular for 5 days), analgesics (injections of meloxicam at 0.2 mg/kg, once daily, intramuscular for 3 days), supportive medication (two boli of yeast and fifty grams of pulvLiv 52, once daily orally for 7 days), and daily antiseptic dressings using povidone iodine were all part of the postoperative regimen.

To prevent straining, the owner of the animal was instructed to feed it green fodder for ten days. Twelve days after the surgery, the buffaloes were following up telephonically, and they were urinating properly, recovering without any problems. The skin sutures were taken out (Figure 6), and they were monitored for a month. All three of the buffaloes are currently pregnant.

Perineal hernia is an infrequent condition in buffaloes, and notably, it exclusively manifests in female animals, distinguishing it from the more common cases observed in dogs (Prasad *et al*., 2015; Vadalia *et al*., 2017), the prevalence in females is thought to be linked to hormonal factors, specifically estrogen and relaxin. Research indicates that the highest production of relaxin occurs in the reproductive organs of females during pregnancy, primarily originating from the corpus luteum and placenta. Additionally, less prominent sources include endometrial glands, thecal cells, and mammary gland parenchymal cells (Bani, 1997; Sherwood, 2004).

The levator ani muscle, coccygeus muscle, external anal sphincter muscle, internal obturator muscle, and perineal fascia make up the bovine pelvic diaphragm, which is essential for preserving the position of internal organs like the bladder, prostate, and intestines. A perineal hernia differs from other types of hernias in that its contents are not covered by the peritoneum. This is caused by changes in the pelvic diaphragm. Cases where animals experience difficulty urinating, especially those associated with this type of hernia, require immediate attention and often necessitate emergency intervention (Padilla *et al*., 1999). A similar case involving the herniation of the urinary bladder into the vaginal folds, forming a perineal hernia, has been documented (Shridhar, 2011). For this kind of hernia to be effectively managed and adhesions and related complications to be avoided, early diagnosis and treatment are essential.

CONCLUSIONS

Perineal hernias are of frequent occurrence in bovines. If not treated in time they may lead to serious complications like entrapment and necrosis of urinary bladder and skin of perineal region. Surgical treatment under epidural anesthesia and local infiltration is a simple procedure and can be performed in field conditions.

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