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Clinical Article

BILATERAL OVARIECTOMY FOR SUCCESSFUL SURGICAL MANAGEMENT OF CERVICO-VAGINAL PROLAPSE WITH VESICOCELE IN A MULTIPAROUS COW

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SUMMARY

An eight year old non pregnant khillar cow was presented with complaint of recurrent cervico-vaginal prolapse and urinary incontinence. Clinical examination revealed prolapse of cervico-vaginal folds with adhered urinary bladder. The haematobiochemical parameters within normal range and plasma estrogen level were 23.002 pg/ml. Ultrasonographic examination revealed presence of 2.8 cm and 2.5 cm anovulatory follicles on right and left both ovarian surfaces, respectively indicative of cystic ovarian syndrome. As per the anamnesis, the cow had been treated hormonally with GnRH analogue and PGF2 alpha and later with intravaginal slow releasing progesterone implant for 12 days. However, cow did not respond to the treatment. Bilateral ovariectomy was performed and urinary bladder was repositioned by Caslick's operation. To conclude, surgical ovariectomy is recommended to treat chronic cervico-vaginal- vesicocele along with cystic ovarian syndrome in a cow.

Keywords: Caslick's operation, Cystic ovary, Epidural, Ovarioectomy, Sterility hump

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Elevated levels of estrogen level due to cystic ovary may cause relaxation of perineal structures which may predispose the prolapse of cervico-vaginal or prolapse of urinary bladder. The incidence of prolapse varies according to the stage of pregnancy, breed, season and parity (Sah and Nakao, 2003; Seema *et al.*, 2020). Cervico-vaginal prolapse can also occur due to hormonal imbalance during estrous phase in cystic ovarian syndrome in non-pregnant animals (Birade *et al.*, 2012). The relaxation of sacrosciatic ligaments predisposes the prolapse of perineal structure including urinary bladder leading to urinary incontinence and require urethral catheterization to drain urine before repositioning of prolapsed mass (Kumar *et al.*, 2012). The present case study puts on record surgical treatment of a chronic cervico-vaginal prolapse along with vesicocele by bilateral ovariectomy in Khillar cow.

A non-pregnant Khillar cow weighing 288 kg and aged 8 years in third parity was presented with the history of cervico-vaginal prolapse. A soft mass of fluid filled consistency (Fig.1) indicative of everted bladder was also evident. The kinking of urethra due to eversion had led to urinary incontinence. The cow had otherwise normal appetite, defecation and rumination. The haematological parameters; haemoglobin (12.5 gm%); PCV (38%); TLC (8500 thousand/cumm) and platelets (172×103/µl) were within the normal range but had increased plasma estrogen level (23.002 pg/ml). The trans-rectal ultrasonography revealed anovulatory follicles with diameter 2.5 cm and 2.8 cm on right and left ovary, respectively. The urine was drained via urethral catherization under epidural anaesthesia. The prolapsed mass was aseptically cleaned and was repositioned back after application of local anaesthetic jelly. The caslick surgery was also done to reduce the vaginal luminal diameter.

As per the anamnesis, the cow had been treated hormonally with GnRH analogue and PGF2 alpha and later with intravaginal slow releasing progesterone implant for 12 days. The cow was again presented with similar clinical manifestation after 4 weeks. Bilateral ovariectomy from right upper flank was planned under epidural and paravertebral anaesthesia. The urine was drained via catheterization and the prolapsed mass was repositioned followed by Caslick's operation. For ovariectomy, a 10-12 cm vertical incision was made on the right upper flank in right lateral recumbency (Fig. 2). The left ovary was palpated and grasped with curved long artery forcep and a double ligation was applied to the ovarian stump with chromic catgut no. 2 (Fig. 3). Similarly, the right ovary was also ligated and severed. The laparotomy incision was closed in routine manner. Post-operatively, the cow was administered fluid therapy, Inj. Dicrysticin-S (Zydus AHL) 2.5 g (BID), and Inj. Melonex (Intas Pharmaceuticals Ltd.) 20 ml (OD) and Inj. Tribivet (Intas Pharmaceuticals Ltd.) 10 ml intramuscularly for five days. The skin sutures were removed after 12 days and the cow recovered without reoccurrence of prolapse for the next follow up year. The mean concentration of estradiol has been reported to be 5.12±00.32 pg/ml and 5.23±34

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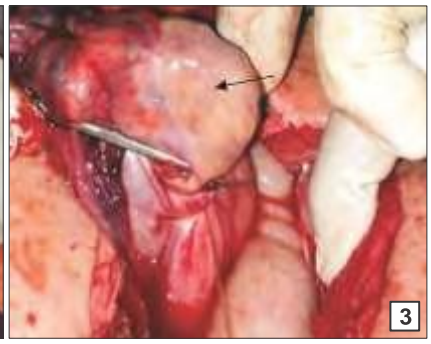

Fig. 1. Khillar cow with cervico-vaginal-vesicocele showing sterility hump
Fig. 2. Surgical approach for bilateral ovarioectomy in cow.
Fig. 3. Clamping of left ovarian stump with a long artery forcep and double ligation of ovarian stump through right upper flank (black arrow)

pg/ml on day 0' and day 1-29' respectively in cows with ovarian cysts (Kesler *et al.*, 1980). The peak plasma estrogen level during normal estrous has been reported to be 11.2±1.3 pg/ml on the day before estrous (Smith *et al.*, 1975).

Cystic ovarian disease (COD) is characterized by the presence of large, persistent, anovulatory follicles in the ovaries due to malfunction of the neuroendocrine mechanism controlling ovulation and thus, interferes with the estrous cycle (Wiltbank *et al.*, 2002). The incidence of COD increases with parity (Fleischer *et al.*, 2001). Ovariectomy in prepubertal heifers through left flank approach in recumbent posture has been reported (Juliana *et al.*, 2009) and is a unique, efficient and low risk surgical technique in dairy cows for treatment of persistent follicular cysts (Rizzo *et al.*, 2016). Cervico-vaginal prolapse is one of the complications mostly seen during pregnancy in cows, but occasionally may occur after parturition and rarely is unrelated to pregnancy or parturition (Sathiamoorthy *et al.*, 2014). To conclude, surgical ovariectomy is recommended to treat chronic cervico-vaginal-vesicocele along with cystic ovarian syndrome in a cow.

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