HAEMATO-BIOCHEMICAL CHANGES DURING POST-PARTUM CERVICO-VAGINAL PROLAPSE AND ITS MANAGEMENT IN A NON DESCRIPT HEIFER

D. J. Talukdar, K. Ahmed, Papori Talukdar and R. Buragohain

Deptt. of Animal Reproduction, Gynaecology and Obstetrics

College of Veterinary Science, AAU Khanapara, Guwahati- 22

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Corresponding Author : dibya26@gmail.com

Prolapse of genital organs is an emergence condition which adversely affects overall performance of the affected animal. It should be treated before excessive edema, traumatic lacerations fatal hemorrhage and bacterial contamination lead to unfavourable prognosis (Beheshti *et al.,* 2011). Vaginal prolapse has been registered in delivered buffaloes, cows and sheep and usually observed in the last months of pregnancy (Noakes *et al.* 2000). During the last trimester of pregnancy increasing levels of oestrogen causes relaxation of the pelvic ligaments along with oedema of the vulva (Hudson, 1986). When the animal sits down the intra- abdominal pressure (especially in late pregnancy) is transmitted to the flaccid pelvic structures tending to force the relaxed and loosely attached vaginal floor and walls through the vulva, thereby favouring cervico-vaginal prolapse. Estrogens also have a suppressing effect on blood calcium causing greater relaxation of pelvic ligaments leading to genital prolapse (Richardson *et al*. 1981).

In the present case report post-partum cervico-vaginal prolapse in a heifer its clinical signs, hemato-biochemical findings and its management is discussed .

CASE HISTORY AND OBSERVATIONS

A non descript heifer was presented with a symptom of post-partum cervico-vaginal prolapse since six hours. The body temperature was 38.2^{0}C; heart rate 78/ min; respiratory rate 16/ min, ruminal movements 9/5 min. There were deviations of locomotion, loss of appetite and water intake. Clinical examination revealed that the entire circumference of the vagina along with external os of the cervix had prolapsed to an extent of about 13 inches out of vulva. The prolapsed cervico- vaginal mucus membrane was oedematous, soft and pink in colour and soiled with dung. Neither necrotic tissue nor severe inflammation could be noticed on the surface of the prolapsed mass.

HAEMATO-BIOCHEMICAL ESTIMATION

About 10 ml of blood was collected from jugular vein. Two ml of blood was procured in a vial containing EDTA @ 1.0 mg/ml for haematological studies. The remaining blood was kept for clotting, and serum was separated and centrifuged. The haematological parameters *viz*. Hb, PCV, DLC and TLC were estimated with an auto hematology analyser BC - 2800 Vet (Mindray, China). The biochemical parameters *viz.* ALT, AST, total protein, serum calcium and phosphorus were estimated spectrophotometrically using an autoanalyzer.

OBSTETRICAL MANAGEMENT

The animal was put under low caudal epidural anaesthesia with 2% lignocaine hydrochloride. The vulva and perineum were scrubbed thoroughly with a mild ice cold potassium permanganate solution. The prolapsed mass was washed with normal saline solution and lifted to the level of the ischial arch. The ice cubes were applied over it and gently massaged to reduce swelling. Lignocaine hydrochloride jelly was applied over the protruded mass. The prolapsed mass was repositioned to its normal anatomical position. Since the animal was showing continuous straining, the vulval retention suture was applied with a Gerlach needle and non absorbable surgical suture (1-0, Black braided silk, Johnson & Johnson Ltd., Jharmajni, Baddi, H.P.-173205) for prevention of recurrence.

Post-operatively, the animal was kept on antibiotic (Streptomycin and Penicillin combination 5 gm I/m) with other supportive treatments including antihistamincs and anti-inflammatory and analgesics (Pheniramine Maleate 15 ml I/m and Meloxicam 15 ml I/m) for the next 5 days and mineral mixture with calcium supplements (Calcium and Magnesium borogluconate @ 450 ml slow intravenously atstat). The vulval suture removed after 3 days. The animal had a normal feed intake and there was no recurrence.

Fig. (a) Heifer with cervico-vaginal prolapse

Fig. (b) Heifer after reposition of prolapsed mass

RESULTS AND DISCUSSION

. The prolapsed mass was repositioned to its normal anatomical position. Mechanical factors, such as the increasing intra abdominal pressure during calving along with excessive relaxation of pelvic ligaments and vaginal muscles due to higher levels of estrogen and relaxin are considered to be the main cause of the prolapse (Mishra *et al*., 1998). The echographic appearance of urinary bladder and the small amount of urine evidence for retroflexio and uretral compression absence. The haemato-biochemical values are presented in Table 1. In the present study, haemato-biochemical values were nearly normal, except low level of serum calcium and phosphorus (Ahmed *et al*., 2005; Yotov *et al,* 2013). The genital organs become atonic and there are more chances of prolapse due to calcium and phosphorus deficiency (Mudasir *et al*., 2009; Akhtar *et al*., 2012).

Based on information obtained from the present study, it was concluded that the deficiency of serum

TABLE 1. HAEMATO-BIOCHEMICAL CHANGES IN A NON DESCRIPT HEIFER DURING POST-PARTUM CERVICO- VAGINAL PROLAPSE

1	Hb (gm%)	9.8				
2	PCV(%)	28.8				
3	TLC (cumm)	9000				
4	DLC	N(%)	E(%)	B(%)	L(%)	M(%)
		40	7	nil	58	5
5	ALT (U/L)	14.25				
6	AST(U/L)	58.02				
7	Total protein (gm/L)	78.24				
8	Ca (mg/dl)	6.20				
9	P(mg/dl)	3.09				

calcium and phosphorus and the increasing intra abdominal pressure during calving along with excessive relaxation of pelvic ligaments and vaginal muscles are considered to be the main cause of the prolapse. Appropriate therapy in these cases includes prolapse replacement after epidural anaesthesia, vulval retention suture and administration of antibiotics, analgesic and mineral supplements.

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