CASE REPORT

# Hysterotomy through Colpotomy for the Management of Fetal Maceration in PGF2α Non-Responsive HF Crossbred Cow

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## Abstract

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Fetal maceration is an uncommon condition where the fetus dies after ossification and undergoes microbial digestion or putrefaction in the uterus till only the mass of bones remains (Dhindsa *et al.,* 2013; Kumar, 2015). Incomplete abortion after the third month of gestation is the main reason for a retained fetal bonymass in the uterus of cows and buffaloes (Sood *et al.,* 2009). Besides, the cow does not display severe systemic illness, but the cow may become slightly febrile, anorexic and depressed with vague signs of intermittent straining, accompanied by a foul, purulent vaginal discharge containing small bones (Newman and Anderson, 2005; Haben, 2020). The retained macerated fetus by administration of luteolytic drug (PGF2α) and fetal bones were removed along with purulent discharges manually (Ramesh *et al.,* 2023). The present case reports the surgical management of $PGF_2α$ non-responsive animal affected with fetal maceration by hysterotomy through colpotomy.

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## Case History and Observations

A HF crossbred cow on its third gestation was reported with the history of prolonged gestation of about 300 days without any parturient signs. The animal was treated by the local veterinarian with multiple doses of Inj. $PGF_2α$ and found non-responsive to treatment. General clinical examination showed normal body temperature (38.5°C), normal respiration rate (40/min) and normal heart rate (62/min). Per vaginal examination revealed closed cervical external os. Rectal examination revealed that the cervix and uterus were located within the pelvic cavity and uterus was found to be hard with bony crepitating structures. The case was diagnosed as $PGF_2α$ non-responsive fetal maceration and hence was decided to relive the fetal skeleton by hysterotomy through colpotomy.

## Treatment and Discussion

The animal was restrained with 3 mL of 2% Lignocaine HCl epidurally. The cervix was pulled out of vulva using long obstetrical hook. Then an incision of 4 cm was made on the dorso-lateral aspect of the vaginal wall (Colpotomy) (Fig. 1). Through the vaginal incision the uterus was exteriorized, everted and incised (hysterotomy) on the greater curvature (Fig. 2). Later the fetal skeleton and decomposed fetal structures were extracted from the uterus (Fig. 3). Uterine lumen was thoroughly washed with normal saline (Fig. 4). Then the uterine incision was closed with double layer of Cushing followed by Lambert suture using chromic catgut no. 2. The everted uterus was replaced to its original position and the vaginal incision was closed with simple continuous suture pattern using chromic catgut no. 2. Animal was treated with Enrofloxacin (7.5 mg/kg b.wt.), Flunixine meglumine (1.1 mg/kg b.wt.), Chlorphenaramine maleate (100 mg) and intravenous fluids. Animal recovered uneventfully, but the future fertility was questionable because of the endometrial damage and explained the prognosis to the owner.

In the current case, hysterotomy through colpotomy was adopted to retrieve the fetal skeletons since the animal did not respond to $PGF_2α$. In most of the chronic macerated cases the disintegration of skull from the foetus occurs and this disintegrated skull will lodge in horn or near to the cervical os. When the cervix is not open, prostaglandins or estrogens can be given to regress the partially regressed CL and to increase the uterine contractions (Purohit and Gaur, 2011). The retained macerated fetus was removed by administration of luteolytic drug (PGF2α) and fetal bones were removed along with purulent discharges manually from a cow as described by Ramesh *et al.* (2023), whereas a combined technique

of vaginotomy (colpotomy) with cervicotomy was carried out for exposing the uterus to remove the fetal bones and tissue debris in cattle as described by Prakash *et al.* (2017). The present case was managed alone with colpotomy and hysterotomy for retrieval of fetal skeleton. Simultaneous perforation of the vaginal wall and cervix using a sharp instrument is an elegant means of entering the peritoneal cavity and could be expected to have minimal postoperative complications (Drost *et al.,* 1992). Colpotomy could be less invasive standing approach for the accidents of gestation where the fetus is located within the pelvic cavity. Hence, recovery and post-surgical complications will be less and cheaper as compared to open abdominal procedures and can be easily adopted at field level.

**Fig. 1:** Incision on the vaginal wall Colpotomy

**Fig. 2:** Hysterotomy and extraction of the fetal skeleton

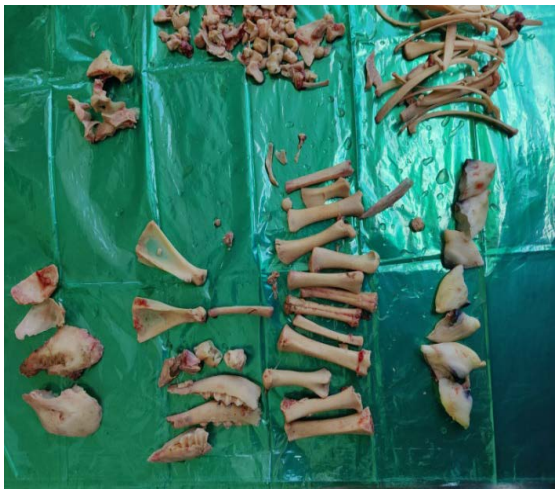

**Fig. 3:** Extracted skeleton of the macerated fetus -

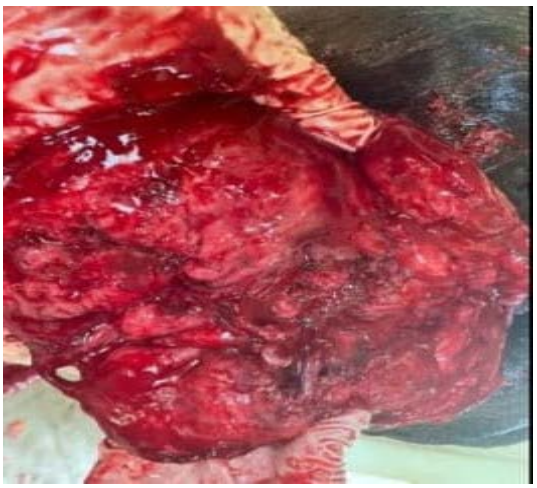

**Fig. 4:** Flushing the uterus with normal saline

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