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# Management of Fetal Maceration in a Cross Bred Jersey Cow - A Case Report

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**Abstract**

A sixth month pregnant Cross bred Jersey cow under second lactation was referred to the Veterinary Clinical Complex, Garividi with the history of straining, mild blood tinged purulent vaginal discharges since 15 days. Upon detailed clinical examination of affected animal, noticed all the vital parameters were within normal range. Per rectal examination revealed firm and thick walled uterus with crepitating fetal mass and relative reduction in size of the uterus. On pervaginal examination, two finger cervical dilatation and foul smelling mucopurulent discharges from the vagina were noticed on day of presentation. Pregnancy was confirmed by using trans rectal ultrasonography revealing scanty fluid in contracted uterus and fragments of fetal skeleton. Initially parturition was induced with parenteral administration of Inj. $PGF_{2\alpha}$, dexamethasone and calcium borogluconate. After 48 hours of induction noticed expulsion of mucopurulent discharges from vagina with partial dilatation of cervix. Macerated bony fetal parts were removed manually under the guidance of transrectal ultrasonography.

**Key words:** Cervical dilatation, Foetal maceration, Metritis, Purulent discharges.

Fetal maceration is uncommon condition where the fetus dies after ossification and undergoes microbial digestion or putrefaction in the uterus till only the mass of bones remains. It is triggered by several factors such as genetic and environmental factors that causes defective development in foetus. Moreover, other causes like teratogenic agents, drugs, hormones, chemicals, Gamma radiation, trace elements, variation in temperature, and various infectious agents also resulted in fetal anomalies (Dhindsa *et al*., 2013; Kumar, 2015 and Thangamani *et al*., 2018). Fetal maceration is common sequelae of mummification and generally occurs in the event of death of fetus after formation of the fetal bones, regression of corpus luteum and failure of abortion (Arthur *et al*., 1989). Incomplete abortion after the third month of gestation is the main reason for a retained fetal bony mass in the uterus of cows and buffaloes (Sood *et al*., 2009). Upon rectal palpation, the uterus becomes thick-walled, firm, showing absence of fluctuation and crepitation of the fetal bones in advanced cases. 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 (Haben, 2020; Newman and Anderson, 2005). Retained macerated foetus may be more serious and fatal due to the presence of the decomposing fetus, failure of the cervix and genital canal to dilate normally and uterine inertia. Thus, the prognosis for future fertility of the cow is very poor due to the extent of endometrial damage. As a treatment, luteolytic dose of PGF2α can be given and attempt to evacuate the contents of the uterus if the condition of the cow warrants treatment. However, some bones may be partially embedded in the wall or lodged sideways, preventing their expulsion.

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**Fig.1** Ailing animal with blood tinged

**Fig. 2** Per vaginal manual removal of fetal bones mucopurulent discharges

### Case History and Observations

A sixth month pregnant cross bred Jersey cow under second lactation was referred to the Veterinary Clinical Complex, CVSc, Garividi with the history of vaginal discharges since 15 days. The history revealed that the animal was artificially inseminated six months ago. The general clinical examination of the animal showed apparently normal vitals. Per-rectal examination revealed a contracted uterus lying anterior and downward to the pelvic brim, the uterus appeared thick and contracted having a hard-compacted mass with crepitation in the uterus without appreciable fluid, the placentomes were not palpable and fremitus was absent. Per-vaginal examination revealed that two finger dilatation of the cervix and mucopurulent discharges with foul odour were noticed. Confirmation of maceration was done by using trans-rectal ultrasonography which revealed bright hyperechoic disintegrated bony parts of the fetus and without any fluid in the uterus. Thus, the clinical findings of the case confirmed as fetal maceration. During the following 8-9 days, the animal developed metritis also.

### Treatment Protocol

The animal was treated by inducing parturition with Valethamate bromide (Inj. Epidosin, TTK health care, 80mg, IV), Double Prostaglandin (Inj. Vetmate, Vetcare, 500µg, IM) and Inj. Dexamethasone (Dexona, 10ml IM, Zydus, India) along with fluid therapy. After 48 hours there was four finger cervical dilatation and the fetal remnant bones were removed manually (Fig.1, 2&3). The fetal parts were auto digested and

**Fig.3** Macerated fetal remnants removed manually

purulent discharges of approximately 80-100ml were noticed. Intrauterine antibiotic and proteolytic bolus (Boli. Furea) was placed. Treatment with broad spectrum antibiotics (Inj. Inatcef-4, 4g, IV, Intas Pharmaceuticals Limited), fluid (DNS, 3000ml IV), anti-inflammatory (Inj. Melonex, 20 ml IM, Intas Pharmaceuticals Limited) and vitamin (Inj. Belamyl, Zydus cadila Ltd, 10ml IM) were administered for five days. The animal was later treated for metritis with Intrauterine infusion (LIXEN IU, 60ml, Virbac, India).

### Case Discussion

Fetal maceration is disintegration of a fetus that has died and has failed to abort due to un-dilated cervix. In the present case rectal palpation revealed compact mass of fetal bones palpable in the uterine horn which was doughy and thick. Similar finding was reported by Jasmer *et al.*, 2018. It is observed that in most of the chronic macerated cases the disintegra-

tion 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). In the present case, attempt was done to remove the retained macerated fetus by administration of luteolytic drug (PGF2α) and fetal bones were removed along with purulent discharges manually. The available literature describes the management of macerated fetus by manual removal of fetal bones per vaginum through a dilated cervix (Rangasamy *et al*., 2016 and Kumar *et al*., 2013). However, hysterectomy for removal of the macerated fetus is potentially dangerous and must be considered only as a last resort (Honparkhe *et al*., 2008). In the present case, there was cervical dilatation of four fingers after 48 hours of treatment, where the fetal bony parts were removed manually. The animal had metritis in the present case which is similar to that of Bhattacharyya *et al*., 2015 who reported metritis after 8 days of treatment of fetal maceration.

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