



# Field Management of Macerated Foetal Tissue Debris by Right Upper Flank Laparo-hysterotomy in a Cow

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## Abstract

*A crossbred cow 80 days pregnant with a history of pus discharge from the vagina was presented for treatment. The cow was diagnosed with foetal maceration and surgery was performed in a standing position by laparo-hysterotomy by giving an incision on the upper right flank. A fetal mass without fetal bones was removed by surgery.*

**Keywords:** Foetal Maceration; Jersey Crossbred Cow, Laparo-Hysterotomy.

## Introduction

Fetal death, putrefaction, luteolysis, failure of abortion and pus discharge is known as fetal maceration. After the death of fetus if cervix is not dilated completely, bacterial contamination of the fetal mass occurs which may lead to putrefaction and autolysis of soft tissue. As a result of autolysis soft tissue of the fetus is digested leaving behind fetal bones within the uterus (Morrow, 1986; Noakes *et al.*, 2009). The condition is common in cattle and buffaloes (Dutt *et al.*, 2018; Purohit and Gaur, 2011; Kumar *et al.*, 2017; Purohit, 2012) but maybe rarely encountered in mare (Burns and Card, 2000), small ruminants (Mehta *et al.*, 2005; Kumar *et al.*, 2007) and companion animals. Incomplete abortion after 3rd month of gestation is the main reason for a retained foetal bony mass in the uterus of cows and buffaloes (Saurabh *et al.*, 2018). In such cases, endometritis develops and leads to infertility (Noakes *et al.*, 2009; Dutt *et al.*, 2018). In rare instances, the disintegrated foetus parts and bones may be retained in the uterus for prolonged periods necessitating surgical removal (Drost, 2007).

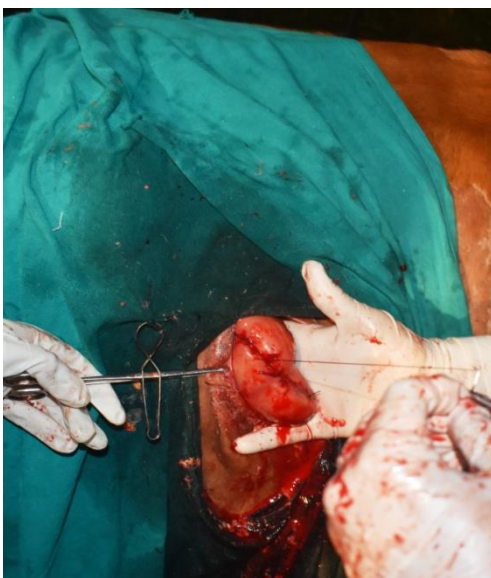
## History and Clinical Observations

A crossbred jersey cow with second lactation, 80 days pregnant with a history of pus discharge from the vagina was presented for treatment at the veterinary hospital, Dashlehra, district Bilaspur (H.P). In the same gestation, the cow had a history of natural mating and was suffering from vaginitis. The animal was treated by a para-veterinarian for vaginitis by douching the vagina with potassium permagnate for 3 days.

Also, the animal was infused with intrauterine povidone iodine to relieve the pus discharge from the uterus. Injection PGF $2\alpha$  was given twice to evacuate the foetal tissue debris. Per-rectal examination revealed the absence of fluids and the presence of tissue debris in the uterus. After 3 days of the treatment, the cervix was one finger dilated. The cervix and the thick contracted uterus were located on the pelvic brim as the size of tissue debris was smaller. Crepitation was not felt inside the uterus due to the absence of bone calcification. The fetal contents in the uterus were showing pulpy consistency and were hanging from the pelvic brim. The case was diagnosed as fetal maceration and decided to remove the fetal tissue debris through upper right flank laparo-hysterotomy due to the smaller size of the fetal tissue debris.

## Treatment and Discussion

The laparo-hysterotomy was performed in a standing position by giving an incision on the upper right flank (Figure 1). The local anaesthesia was achieved by lignocaine hydrochloride in a linear fashion. Macerated foetal tissue debris (Figure 2) was removed and the uterus was flushed with normal saline. The uterus was subsequently sutured with a single Cushing suture pattern followed by closure of the peritoneum, muscle, and skin as per standard surgical procedure.



**Fig. 1:** Right Upper Flank Laparo-hysterotomy



**Fig. 2:** Macerated fetal tissue debris

Post-operative care included the intravenous fluid therapy with inj. normal saline 4L, inj. metronidazole 800 ml (infusion metrogyl® 100 ml) I.V. and antibiotic therapy by using strepto-penicillin 2.5g I.M. twice daily for 5 days with other supportive treatment including anti-inflammatory and analgesic-like inj. meloxicam 15 ml I.M. once daily for the next 5 days. Antiseptic dressing of surgical wounds on alternate days was done with povidone iodine ointment and sutures were removed after the tenth day of surgery.

The fetus was large so the tissue debris could not come out of the cervix due to incomplete dilatation. Moreover, the thick contracted uterus was located in the pelvic cavity. Therefore, it was decided to remove the macerated fetal tissue debris in a standing position by making an incision on the upper border of the right flank. Laparo-hysterotomy to remove the macerated foetus is potentially dangerous and must be considered as a last resort (Sood *et al.*, 2009, Dalal *et al.*, 2018). However, most the scientist has reported failure of future fertility due to damage to endometrium by foetal bone fragments (Roberts, 2004, Prakash *et al.*, 2017) and some have reported conception in affected cases (Sood *et al.*, 2009, Bhattacharyya *et al.*, 2015; Kumar *et al.*, 2017). The future fertility depends upon the duration of the condition, damage to the endometrium, and treatment approach (Sood *et al.*, 2009; Kumar *et al.*, 2017). The removed fetal tissue was devoid of bones and no damage to the endometrium was observed. The cow was inseminated after two months of surgery and was confirmed pregnant through per-rectal examination after 60 days of artificial insemination.

### **Contribution by Authors**

Equal contribution. All authors declared that 'written informed' consent was obtained from the approved parties for the publication of this article and accompanying images.

### **Conflict of Interests**

There is no conflict of interest.

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