

Fetal Mummification in Bovines

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Fetalmummification is defined as the fetal death without abortion and without lysis of CL during the end of the first and beginning of the second trimester of gestation in the cow or buffalo which results into autolytic changes in the fetus with absorption of placenta and fetal fluids and shrinkage of the uterus and the fetus.

Pre- requisite events that must be present in order for fetal mummification to occur:

1. The death of fetus after the complete development of bones
2. Rapid resorption of uterine and fetal fluids
3. Anaerobic environment of uterus until the mummification process is complete and
4. Uterus free of bacteria.

Types of mummification

1. Papyraceous mummification: As the name implies parchment paper like foetal membranes without any exudate are observed, recorded in dogs, cats, pigs, sharks and equines.
2. Hematic/chocolate mummification: In this condition, the surface of foetus and foetal membranes surrounded by a brown colour, viscous material that may have originated from caruncular bleedings are observed, recorded in cattle, buffalo and dogs.

Incidence

Risk factors for higher incidence of mummification are: the breed and history of the previous incidence. The fetal mummification has an incidence of up to 2% and 0.01% in cattle and buffalo, respectively.

Etiology

Several potential causes for this condition have been proposed: bovine viral diarrhoea (BVD), leptospirosis, *Campylobacter fetus*, mold and *Neospora caninum*; mechanical factors, such as compression and/or torsion of the umbilical cord; uterine torsion; defective placentation; genetic anomalies; abnormal hormonal profiles; toxic plants (eg. *Pteris*

japonica) and chromosomal abnormalities. However, a definitive etiology is rarely established, because of tissue degeneration.

Clinical presentation and diagnosis

In most of cases, farmers complains about prolong gestation period without sign of parturition or cow's abdomen is unusually small for the given stage of pregnancy. Per rectal palpation as well as ultrasonographic examination reveals compact, firm and immobile mass without fetal fluid and placentomes. The ultrasound examination reveals the absence of a heartbeat. Per vaginal examination ends with closed cervix.

Treatment

1. Use of prostaglandin analogues
2. Use of estradiol compound
3. Hysterotomy
4. Colpotomy
5. Mummectomy
6. Combination of estradiol and prostaglandin compounds

Prognosis and subsequent fertility

Following medical (or) surgical management expulsion of the mummified fetus, most animal recover promptly since no infection is present and conception may occur within three estrus after treatment, however, the dam's prognosis regarding subsequent fertility is guarded.

Preventive measures

Mummification can be prevented by proper vaccination for pathogens, regular hormone profiling and by adopting hygiene and sanitation.