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BOVINE SERVICES
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November 2022 Bovine Newsletter

Retained Fetal Membranes. (RFM)

Retention of fetal membranes in cattle can lead to adverse health effects specially reproductive performance.
Most studies define RFM in cattle at 12 to 24 hours after calving.
Negative affect to RFM include:

- delayed uterine involution,
- increased risk for endometritis, metritis, ketosis, and mastitis
- longer time to 1st service,
- increased services per conception,
- decreased pregnancy rates,
- and increased days open.
    - These diseases can lead to losses in milk ($$$) production.

Risk Factors and Causes of RFM

Induced parturition:

- induction of labor is an established risk factor for RFM in cattle.
- shortened gestation
- abortion
- twinning
- dystocia, Fetotomy, Cesarean section
    - Trauma to the uterus can result in edema of chorionic villi and heparin release that could impair separation at the cotyledon-caruncle interface.
- nutritional deficiencies such as vitamin E, selenium, and carotene
- infectious agents such as BVDV
- immunosuppression
- nonsteroidal anti-inflammatory

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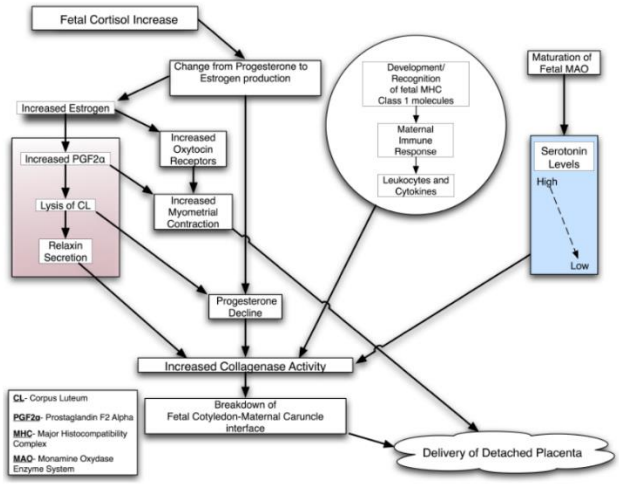

Fig 1. Physiologic processes leading to the detachment of the placenta in cattle.

The multiple hormonal and biochemical changes leading to normal placental delivery suggest that an interruption in one or more of these events can lead to placental retention.

Treatment

A variety of methods have been used in the treatment of bovine RFM, with questionable results.

Manual removal of the placenta

- numerous studies demonstrate a deleterious effect on reproductive performance more frequent and severe uterine infections
- necropsy examinations of cows after manual removal of the placenta revealed uterine hemorrhages, hematomas, and macro- or microscopic evidence of fetal membrane tissue attached to uterus, even when removal was thought to be complete
- the combination of damage to the endometrium, bacterial invasion, can result in postpartum metritis and subsequent negative effects on fertility.

Intrauterine antibiotic therapy

- can result in additional time, cost, and unnecessary antibiotic use without improving reproductive outcome.

Systemic antibiotics

- are beneficial in RFM cases where fever was also present.
- treating all RFM cows with systemic antibiotics regardless of presence of fever was not superior in improving shedding of RFM, or subsequent reproductive parameters
- in general, unnecessary antibiotic usage can be avoided by only treating febrile cows

Prostaglandins and oxytocin.

- numerous studies have not supported their use as a general treatment for RFM or for prevention of RFM, in dairy cows.
- conversely, a higher percentage of cows (80 versus 58.5%) expelled the complete placenta within 12 hours if they were treated with PGF2a after C-section.

Collagenase

- collagenase treatment was shown to cause release of membranes in 85% (23 of 27) of cows within 36 hours.
    - difficult and expensive

Prevention

- transition cows management in terms of nutrition and cow comfort decreases the incidence of retained placenta.

the focus of bovine veterinary medicine is shifting from the treatment of disease in individual animals to herd prevention strategies, and RFM is a prime example of a disease in which prevention might be easier and more economical that treatment.

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