

## Introduction

The post-partum complications in the cattle significantly affect the health and productivity of the cows and their calves. Recognize, prevent and management of these complications are important to maintain the herd health and the well-being of both the mother as well as the calf.

## Retained placenta

The retained placenta is defined as the placenta does not expel out within 12 hours after parturition.

## Etiologies

- ✓ **Nutritional deficiencies:** Deficiency of selenium, vitamin E or calcium and other minerals.
- ✓ **Obstetrical trauma:** Dystocia (difficult calving) leads to damage to the placenta.
- ✓ **Infection:** Severe uterine infections inhibit the normal placental separation and explosion.

## Clinical signs

- ✓ **Visual signs:** The placenta in the uterus with hanging from the vulva.
- ✓ **Foul odour:** Due to infection (metritis) associated with the retained placenta.
- ✓ **Depression or anorexia:** Such general signs of illness or reduced appetite.

## Diagnosis:

- ✓ Physical or per rectal examination and observation of the retained fetal membranes.
- ✓ Assessment of the general health and signs of the infection.

## Treatment

- ✓ **Manual removal:** The veterinarian needs to assist in the removal of the retained membranes.
- ✓ **Medication:** Antibiotics and anti-inflammatory agents are required in the infected cases.
- ✓ **Hormonal treatments:** Oxytocin or prostaglandins are used to stimulate the

uterine contractions and expulsion of the placenta.

## Prevention

- ✓ **Nutritional management:** Adequate selenium and vitamin E supplementation is essential during pregnancy period.
- ✓ **Calving management:** The stress and complications need to be minimised during the calving through proper management and assistance.

## Metritis

The metritis is the inflammation of the uterus due to bacterial infection following parturition.

## Causes:

- ✓ **Retained placenta:** Higher the risk of the uterine infection.
- ✓ **Dirty calving environment:** The bacteria is introduced during the calving leads to infection.
- ✓ **Poor hygiene:** Lack of hygiene and cleanliness in house contributes to the metritis.

## Clinical signs:

- ✓ **Fever:** Higher body temperature.
- ✓ **Foul smell:** Unpleasant odour from the vulva due to the necrotic tissue.
- ✓ **Depression and anorexia:** symptoms or signs of the systemic illness.
- ✓ **Vaginal discharge:** Purulent (pus-like) discharge.

## Diagnosis:

- ✓ Physical examination such as palpation of the uterus and observation of the discharge.
- ✓ Blood tests reveal the elevated white blood cell counts due to infection.

## Treatment:

- ✓ **Antibiotics:** Appropriate antibiotic therapy is based on veterinary recommendations.
- ✓ **Anti-inflammatory agents:** To reduce the fever and inflammatory conditions.



- ✓ **Supportive care:** The proper hydration and nutrition.

#### Prevention

- ✓ **Good hygiene:** Cleanliness and hygiene condition in the calving areas.
- ✓ **Routine health checks:** Regular monitoring for the retained placenta and other complications.

#### Uterine Prolapse

The uterine prolapse is defined as the uterus turns inside out and protrudes through the vulva shortly after parturition.

Causes:

- ✓ **Difficult calving (Dystocia):** Excessive straining during the parturition.
- ✓ **Low calcium:** Hypocalcemia (milk fever) weakens the uterine tone.
- ✓ **Genetic factors:** Some breeds are predisposed to this condition.

#### Clinical signs:

- ✓ **Visible uterus:** Uterus is protruding from the vulva.
- ✓ **Straining:** The cow shows the signs of discomfort and straining.
- ✓ **Swelling:** The exposed uterus is appeared as the swollen or damaged.

#### Diagnosis

- ✓ Visual inspection of the cow to confirm the uterine prolapse.

#### Treatment:

- ✓ **Immediate veterinary care:** Urgent intervention is needed to reduce, repair and replace the prolapsed uterus.
- ✓ **Replacement:** The veterinarian needs to replace the prolapsed uterus.
- ✓ **Suture or retaining device:** Sutures or other devices are used to prevent the uterine prolapse recurrence.
- ✓ **Supportive care:** Antibiotics and anti-inflammatory agents are required to prevent the infection and promote recovery.

#### Prevention:

- ✓ **Monitor calcium levels:** Proper nutritional management at pre-calving is to be maintained.
- ✓ **Assist during dystocia:** Provide assistance to the cows exhibit the difficulties during parturition.

#### Milk Fever (Hypocalcemia)

Hypocalcemia is also called as milk fever. It is a metabolic disorder caused by low blood calcium levels occurs around the time of calving.

Causes:

- ✓ **High milk production:** Higher calcium demand during the lactation.
- ✓ **Poor mineral nutrition:** Insufficient dietary calcium or phosphorus levels before the calving.

#### Clinical Signs:

- ✓ **Muscle weakness:** Difficult in standing or moving.
- ✓ **Tremors:** Muscle tremors or twitching.
- ✓ **Dullness:** Depressed demeanour or decreased responsiveness.

#### Diagnosis:

- ✓ Diagnosis is by clinical examination and assessment of the clinical signs; however, the blood tests also confirm the low calcium levels.

#### Treatment:

- ✓ **Calcium supplementation:** Intravenous or subcutaneous calcium administration help to reduce the incidence of milk fever.
- ✓ **Supportive therapy:** Hydration and monitor the general health are needed to minimize the milk fever.

#### Prevention:

- ✓ **Feed management:** Provide balanced nutrition with rich in calcium and phosphorus at pre-calving.
- ✓ **Monitor body condition:** Excessive body condition loss during lactation should be avoided.

#### Retained Follicles or Cysts

Post-partum ovarian cysts occur when the follicles do not ovulate or resolve normally leads to hormonal imbalances.

Causes:

- ✓ **Stress:** High-stress environments disrupt the normal hormonal cycles.
- ✓ **Nutritional deficiencies:** Imbalances in the rations affect the reproductive health.

#### Clinical signs:

- ✓ Irregular estrous cycles such as anestrus or irregular heat cycles.

- ✓ Failure to conceive leads to difficulty to get pregnant.

**Diagnosis:**

- ✓ Ultrasound examination helps to visualize the ovarian structures.

**Treatment:**

- ✓ Hormonal therapy such as prostaglandins or gonadotropins help to induce the ovulation or resolve cysts.
- ✓ Supportive care such as improved nutrition and management of the stressors.

**Prevention:**

- ✓ Nutritional management such as the balanced nutrition during and after pregnancy help to minimize the condition.
- ✓ Reduce stress like providing a calm environment with proper handling practices.

**Conclusion**

The post-partum complications affect the health and the productivity of the cattle. Recognizing the signs and understanding the causes of these complications, the dairy farmers take the appropriate preventive measures and effective treatment strategies to minimize or control the post-partum complications. Regular veterinary health care, good balanced nutrition and proper calving management procedures are essential to minimize the risks associated with the post-partum complications.