Postpartum Diseases and Complications Part-3 (Retention of Fetal Membranes)

Prepared by-

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Retention of Fetal Membranes (RFM)

Definition:

"Failure of the villi of fetal cotyledon to detached from the materal crypts of the caruncles and retained longer than the physiological limits".

Synonyms:

- **Retained Placenta**
- **Retention of the afterbirth**

Normal placental expulsion time--

- **Cow-**8-12 hrs (after this period consider as retained placenta)
  (Physiological limit 3-8 hrs)
- **Mare-** 0.5-3 hrs
- **Sheep and goat-** 3-6 hrs

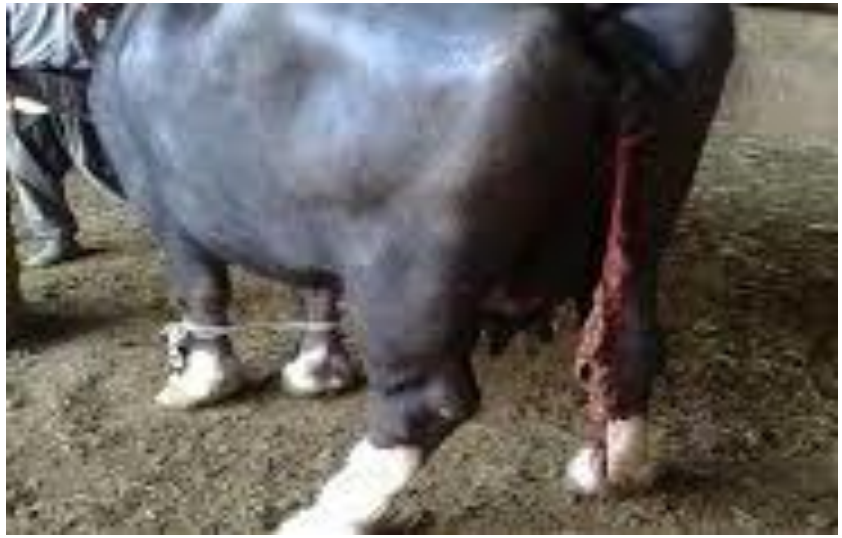

Fig: Hanging of Fetal Membrane in Cow and Buffalo

Fig: Hanging of Fetal Membrane in Mare

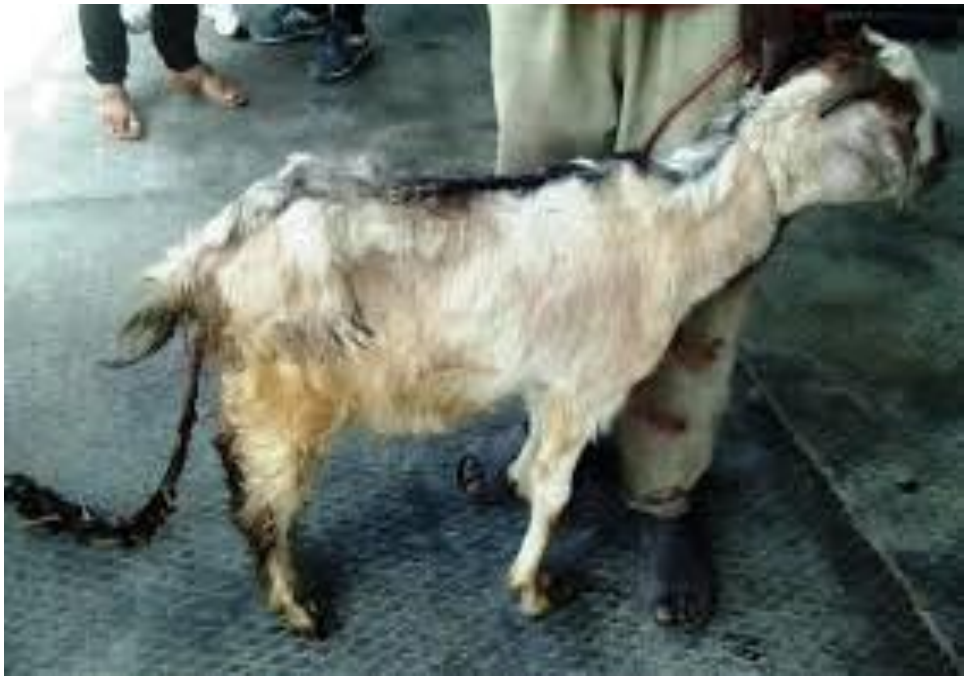

Fig: Hanging of Fetal Membrane in Doe

Incidence:

- Common – dairy cow
- Also found in mare, sheep, goat, pig, bitch, queen and other species.

Mechanism of Shedding of fetal and maternal membrane:

Take place in two phases-

1. Separation of placenta from endometrium
2. Expulsion of placenta by uterine contraction

Mechanism Shedding of fetal and maternal membrane flow chart

Expulsion of fetus

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Rupture of umbilical card

↓

No blood supply to fetal villi

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Shrinkning of fetal villi started in size

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Detatchment of fetal villi from dilated maternal crypts

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Expulsion of detached fetal membrane by uterine forces

Note:

- Dilation of maternal crypts occurred due to reduced blood supply to uterus after expulsion of fetus
- Autolysis by enzyme causes degeneration and necrosis of fetal villi and epithelium of maternal crypts

Etiology:

- **Infectious causes-** Brucellosis, vibriosis, leptospirosis, IBR-IPV, moulds etc.
- **Nutritional Causes-** Vit. A deficiency, low plan of nutrition etc
- **Hormonal causes-** Excess cortisol, low progesterone in late gestation
- **Diseases-** Dropsy of fetal membranes, uterine torsion, fatal giantism, dystocia, abortion and other pathological conditions
- **Old age**
- **Miscellaneous causes-** Heriditary, Sex of Calf (Male), Confinement etc.

Symptoms:

- ✓ Hanging placenta from vulva
- ✓ Fetal membrane may be inside the uterus
- ✓ Anorexia, dull and depressed
- ✓ Increased body temp and pulse rate
- ✓ Decreased milk yield
- ✓ Fetid putrified odour
- ✓ Associated with vaginitis, metritis peritonitis etc

Prognosis- **Fair to good if properly treated**

Sequelae:

- ✓ **Delayed involution**
- ✓ **Chronic endometritis**
- ✓ Perimetritis
- ✓ Salpingitis
- ✓ Ovaritis
- ✓ **Pyometra**
- ✓ RFM in subsequent parturition
- ✓ **Reduced subsequent fertility** etc.

Treatment and Management:

- **Medicinal approach**
- **Mechanical Approach**
- **Manual Removal**

Medicinal approach –

- Use of **ecbolic drugs** alone or in conjunction with hormone

  Ex. Oxytocin (May be beneficial in initial stage)

  Estrogens-10-20 mg

  PGF2-Alfa

  Ergot preparation like Metyl ergometrine

- **Collagenase** into the stumps of the umbilical arteries increases the cotyledon proteolysis

  Ex. Bacterial collagenase (*Clostridium histolyticum*) (200,000 IU) dissolved in 1 lit. NSS

Machanical Approach:-

Hanging of weight on exposed fetal membrane

Manual Approach:-

- Should be attempted **with in 24-48 hrs**
- Not Recommended in elevated body temperature or in necrotic vaginitis

Procedure of manual removal of fetal membrane:-

- Wear a full surgical gloves
- **Wash the perineal region** with mild antiseptic solution such as KMNO4
- Give the **epidural anaesthesia**

- **Free part** of membrane (hanging from the vulva) should be **cut**
- Insert the your hand at maximum approach
- **Grasped the individual fetal cotyledons and separate the membrane from each cotyledons by squeezing action**
- Roll the fatal membrane on your fingers
- Follow the process for each cotyledons starts from distal end of uterus and proceed towards proximal end near to operator
- Remove all the membrane and necrotic and detached cotyledons as maximum possible

Precautions during manual removal:

- ✓ Placental removal must be gentle & quick (05-20 min)
- ✓ Antisepsis must be maintain
- ✓ Frequent withdrawal and reinsertion of hand should be avoided
- ✓ If detachment of fetal membranes not easy then left as such for autolysis or necrosis
- ✓ Douching should not be performed
- ✓ Avoid the manual removal in high body temperature
- ✓ Perineal region after removal of fetal membrane must be clean

Supportive therapy after manual removal:-

- **Broad spectrum antibiotic systemic and intra-uterine both**
- **Ecbolic** drugs eg. Oxytocin, Herbal preparations
- **Fluid** and Calcium therapy if needed
- **Anti-inflammatory** etc.


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