**Induction of parturition**

**Induction of Parturition in Cows**

**Indications**

1. To prevent dystocias due to feto-pelvic disproportion.

2. In the management of medical problems, such as hydrops allantois.

3. Abortion of small heifers.

**Side effects**

The most common problem associated with the induction of parturition in cows is retention of the fetal membranes.

**Procedures:**

**1. Short-acting Corticosteroids**

* Dexamethasone **(20mg)** as a single intramuscular injection.
* 80% - 90% effective when administered to cows within 2 weeks of full term.
* The interval from injection to parturition is about 48 hours.
* The incidence of retention of the fetal membranes is estimated to be about 75%.

**2. Long-acting Corticosteroids**

• Dexamethasone trimethylacetate or Betamethasone suspension (**20 mg)** as a single I.M. dose about 30 days before term.

• Parturition occurs about 15+8 days after injection.

• This method associated with a lower incidence **(9 to 22%)** of retained placenta.

• There is a high incidence of calf mortality **(17 to 45%)** that is thought to be associated with premature placental separation and/or uterine inertia, and the colostrum immunoglobulin concentration is reduced.

**3. Prostaglandins**

• PGF2 alpha (**Lutalyse) (25 mg)** used as a single I.M. injection.

• Calving occurs 24 to 72 hours later in 90-100% of cows treated.

• Calf viability is good if given less than 2 weeks prior to term.

• The incidence of retained fetal membrane is similar to the short acting corticosteroids.

• Some studies have shown a higher incidence of dystocias with prostaglandin than with the corticosteroids.

**4. Cortiscosteroid-Prostaglandin Combination**

• Calving occurs sooner than for either drug alone **(34.6+ 1.4 hours).**

• The incidence of retained fetal membranes is equally as high as when each drug is used alone.

• 25 mg **PGF2** alpha I.M. and 25 mg. dexamethasone I.M.

**5. Short-acting Corticosteroids and Estrogens Combinations.**

• 20-25 mg estradiol I.M. and 25 mg dexamethasone I.M. tends to shorten the average interval to calving.

• This procedure decreased the incidence of retained fetal membranes.

• Estrogens produces residues in milk which limits the use of this method in dairy cattle.

**Induction of Parturition in the Ewe**

• Management of ewes with pregnancy toxemia.

• Injection of 16 mg dexamethasone as a single I.M. injection within 5 days of term. result in normal parturition in 2 to 3 days.

• Two I.M. injections of 1-2 mg of estradiol benzoate 5 to 6 days before term or with a single injection of 15 mg estradiol benzoate 5 days before term.

**Induction of Parturition in Goats**

• Prostaglandin **(250 μg im of luteolase**) at 144 days of gestation results in delivery between 27-35 hours after injection.

• 20 mg dexamethasone produces delivery in 1-2 days.

**Induction of Parturition in the Mare**

**Indications**

• Mares with a history of premature placental separation.

• Delayed parturition due to uterine atony.

• Prevention of injury to the mare at foaling.

• Possibility rupture of the prepubic tendon.

• Possibility death of the mare.

•. Prolonged gestation.

**Methods**

• Both oxytocin and prostaglandins have been used to induce parturition in mares. Oxytocin is however the drug of choice.

• Oxytocin at a low (**20 IU**) dose given I.V. is preferred over high (**40 to 120IU)** doses given I.M.

• Lower doses **(<20IU)** of oxytocin are associated with a lesser degree of discomfort in the mare and shorter delivery times than higher **(>40 IU)** doses.

• After I.V. administration of oxytocin, foaling ordinarily begins in 15 to 30 minutes

• Mares may be induced with prostaglandins (**250 μg im.)**

**Complications:**

• Delivery of premature foals

• Decreased passive transfer of immunoglobulins

• Myometrial spasm

• Premature placental separation

• Dystocias

• Retention of the fetal membranes