



Parturition related disorders in sheep and goat

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Parturition - Successful culmination of pregnancy

- Ist stage of labor lasts for 6 - 12 hr both in sheep and goat. The animal is restless and paws the ground.
- 2nd stage of labor lasts for 0.5 - 1 hr. The fetus is delivered in this stage in anterior longitudinal presentation sometimes in posterior presentation.
- 3rd stage of labor lasts for 3-4 hr after the delivery of last lamb. The placenta is expelled and the uterus starts involution.

vocalization shown by goat
birth canal of goat more fragile

Stages of labor

Ist Stage



2nd stage

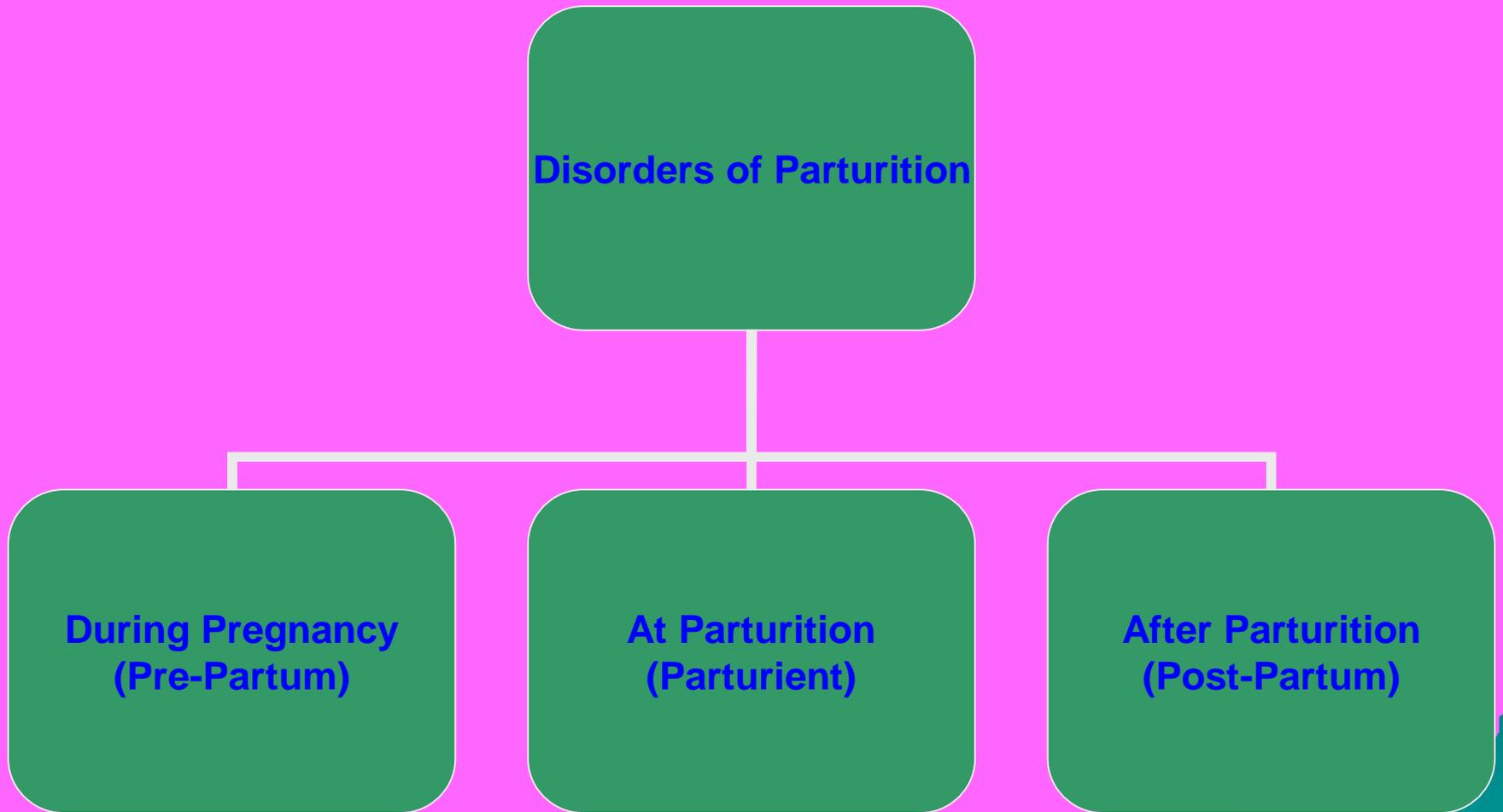




3rd stage



Disorders of Parturition-



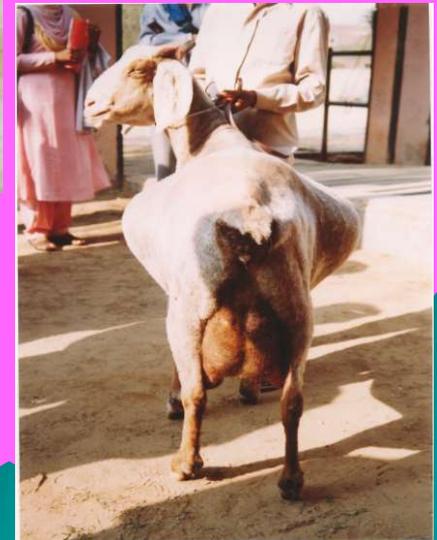
Pre-Partum Disorders

During pregnancy the fetus grows in utero deriving nutrition from its mother and constantly changing its position and excreting end products into maternal circulation. The fetomaternal interactions when obstructed or altered result into disorders.



Commonly encountered disorders

- ❖ Abortion
- ❖ Pregnancy Toxaemia
- ❖ Vaginal prolapse
- ❖ Hydrometra
- ❖ Hydro-allantois



Abortion- Delivery of fetus before full term which is incapable of independent life

Incidence: 3 - 11%



Causes of Abortion are multiferous

- ◆ **Genetic disorders:** Abortion is an inherited disorder in older Angora goats.
- ◆ **Nutritional factors:** Deficiency of energy, protein, iodine, copper, selenium etc..
- ◆ **Toxic plants and pharmaceuticals:** Ex. copper, dexamethasone injections etc.
- ◆ **Stress or trauma:** predator attacks, heat stress.
- ◆ **Infectious:** Ex. *Brucella ovis*, akabane virus



Specimens to be submitted to diagnostic laboratory

Fetus and placenta – chilled and in a clean container
Fresh chilled fetal heart blood, serum or thoracic fluid -
5mL

Frozen fetal abomasal contents

Blood samples from minimum 10% of aborting animals

Management of aborting flock

- ❖ Remove pregnant ewes/goats from aborting animals to a clean area.
- ❖ Initiate specific control measures on the basis of agents suspected
- ❖ Send animals that have aborted and proposed for culling directly to slaughter only after discharge from reproductive tract have ceased.

Hydrometra(Pseudopregnancy)or cloud out-burst

- ❖ Seen in goats
- ❖ Incidence: 3-14%
- ❖ Etiology : High prolactin levels
Persistence of CL subsequent to
fetal death and reabsorption
commonly accepted cause

Diagnosis : Clinical cases discharge of large
quantity of fluid without fetal delivery
Cases referred for PD diagnosis by
ultrasonography



Ultrasonography reveals anechoic fluid, strands without fetal cotyledons or fetus/es



In a study hydrometra was diagnosed in 21 does and out of these it was diagnosed in 5 does by ultrasonography while in 16 does it was diagnosed in goats presented for examination with history of discharge without fetal delivery (Purohit, 2006)

Therapy:

Prostaglandin injections

Inj.Lutalyse 1.5 – 2.0 mL IM

Inj. Prostodin 125 µg IM

Anti-prolactins

Bromocryptine 1 mg SC twice daily for 6-10 days

Hydroallantois:

Accumulation of excessive fluid in allantois, seen both in sheep and goat

- ❖ **Etiology:** Legumes with high estrogens
Hypothyroidism
Placental or uterine disease
- ❖ **Clinical signs:** Sudden excessive abdominal enlargement
Difficulty in respiration
- ❖ **Diagnosis:** Clinical signs, ultrasonography
- ❖ **Therapy:** Pregnancy termination with prostaglandins, caesarean section
- ❖ **Prognosis:** Poor extreme care necessary in therapy.



Pregnancy Toxaemia/Hypocalcaemia



- ◆ Preg. Toxaemia affects both sheep and goats
- ◆ Occurs at final month of gestation
- ◆ Deficiency of glucose in multiple fetus bearing females the most common cause
- ◆ Often associated with hypocalcaemia

Clinical signs

Depression, recumbency,
tremors, circling, grinding of teeth, etc.

◆ **Diagnosis:**

- ◆ Ketone bodies in urine
- Low blood glucose/ calcium



Therapy: Difficult pregnancy termination must be considered

20-80 mL of 25 % glucose

0.5-2 mL of Insulin inj.

5-20 mL of calcium borogluconate

Rupture of the prepubic tendon/ ventral Hernia



- ◆ Occurs in animals with multiple fetuses
- ◆ Pregnant females with abdominal trauma

THERAPY

- ◆ Application of canvas girdle
- ◆ Reduction in salt and trace minerals in feed

PARTURIENT DISORDERS

Parturient disorders

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graph TD; A[Parturient disorders] --- B[Dystocia]; A --- C[Prolonged gestation]; A --- D[Fetal mummies]
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Dystocia

Prolonged gestation

Fetal mummies

Dystocia: **Difficult birth Incidence 3-32%**

Factor	Incidence	Reference
Age	Not related with age. Common in 2 years old ewes	George (1975), Kloss et al. (2002). Majeed and Taha (1989b) Majeed et al. (1993) Sharma et al. (1999)
Sex of fetus	More in ewes with male fetuses	Majeed and Taha (1989b) Majeed et al. (1993)
Parity	More in first and second parity	Echternkamp and Gregory (1999)
Number of fetuses	Common in ewes with single fetus	George (1976) Silva and Noakes (1984) Krueger and Wassmuth (1974) Echternkamp and Gregory (1999)
Season of lambing	Common in spring and winter lambings	George (1975), George (1976) Cecilia et al. (1996)
Breed	Higher in Texel ewes Higher in Cheviot ewes	Krueger and Wassmuth (1974) Whitelaw and Watchorn (1975)
Length of Gestation	Higher in prolonged gestation	Dennis (1974)
Health of ewes	Higher in weak ewes	George (1975)

Causes of dystocia - Maternal and fetal:

	Sheep (Jackson, 2004)	Goat (Purohit et al., 2006) Dairy Goat J 84(2):24-33.
Fetal maldisposition	50%	48%
Fetopelvic disproportion	5%	15%
Fetal dropsical conditions/ monsters	3%	6%
Obstruction of the birth canal	35%	21%
Uterine inertia	-	7%
Others (Uterine torsion, uterine rupture etc..)	7%	3%

Common conditions causing dystocia

◆ Ring womb

Cervical dilation failure:

Etiology multiferous

Suggested therapies:

Isoxsuprine Hcl

Caesarean in non-responding cases

Uterine inertia

Etiology Calcium deficiency
Fear
Young age

Therapy

Oxytocin
injections
calcium
dextrose
caesarean

Fetal maldisposition

Type of disposition	Sheep (Jackson 2004)	Purohit et al., (2006)
Lateral deviation of head/neck	41%	44%
Shoulder flexion	6%	22%
Carpal flexion	10%	14%
Breech	8%	10%
Hock flexion	4%	06%
Others	31%	4%

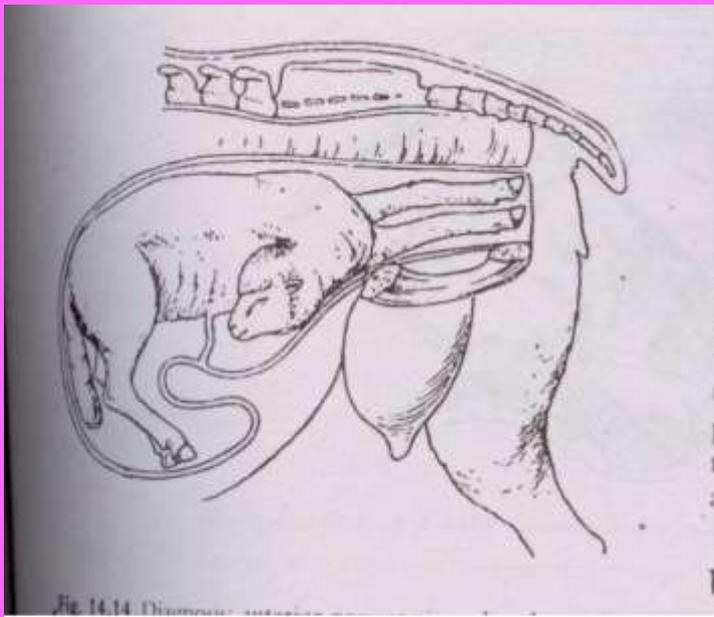
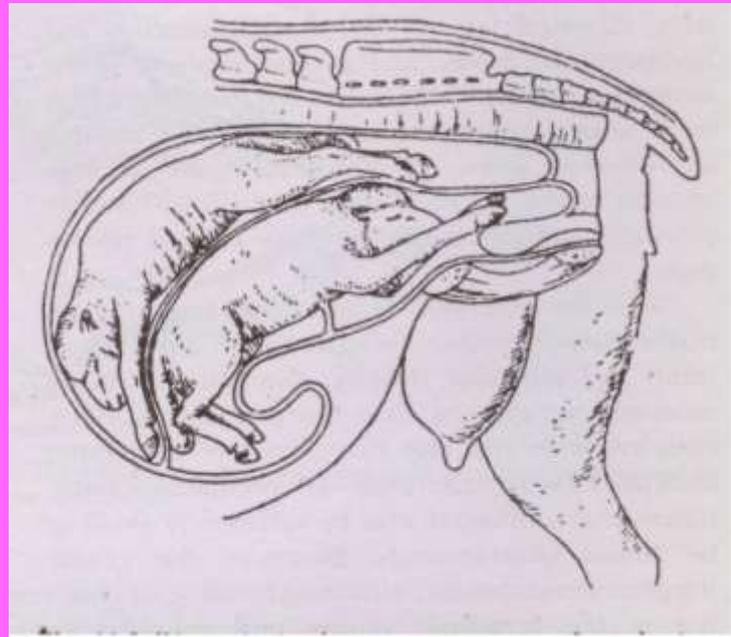
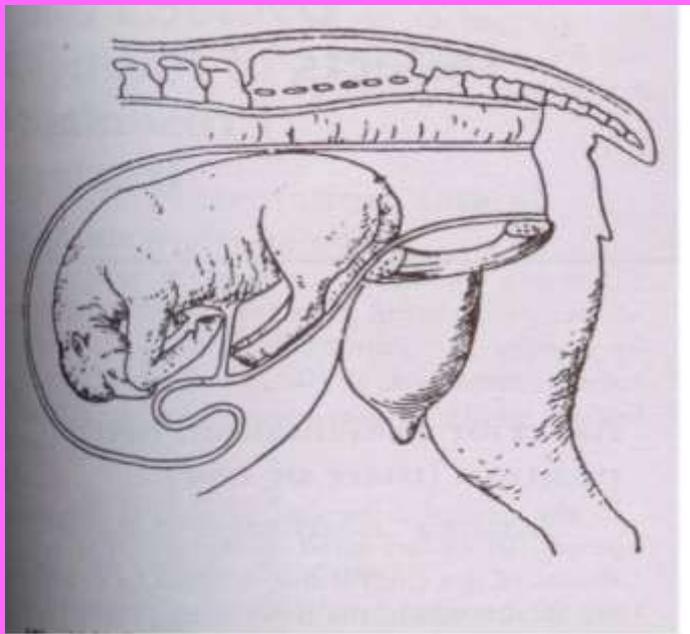
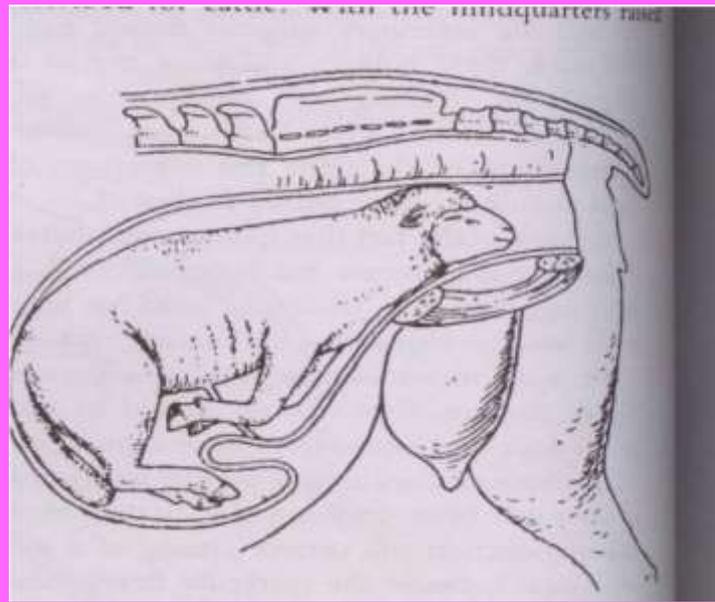


Fig. 14.14. Diagram illustrating the position of the fetus in the uterus.



Fetopelvic disproportion

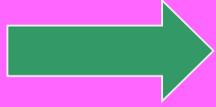
- ◆ Fetal oversize
- ◆ Fetal monsters
- ◆ Fetal emphysema



Examination of animals for dystocia must not begin before 30 min after beginning of contractions
Cleanliness, gentleness and lubrication in examination and handling of dystocia are of utmost importance

- ◆ **Handling of dystocia** → **Manual correction** Due care necessary in vaginal manipulation especially in the goat to avoid rupture





Fetotomy Only partial fetotomy of one limb or head possible.



Caesarean section

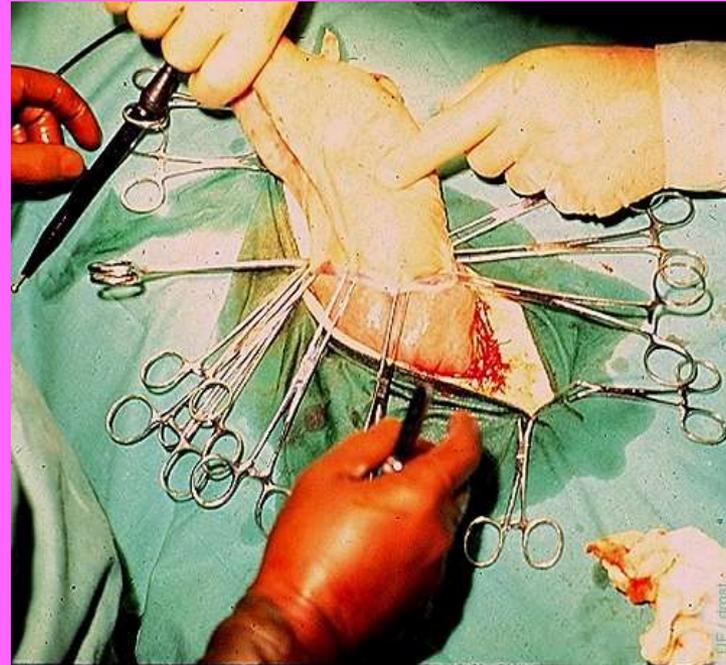
Sites Midline

Flank

Paramedian

Oblique venterolateral

Anesthesia Local infiltration with
sedation



Subsequent to delivery the uterus must be examined to explore any remaining fetus

Abdominal ballotment may be confusing because of presence of ruminal foreign bodies/ bezoars



◆ Prolonged Gestation

Difficult to detect in animals without breeding records

Cause

defects in hypothalamopituitary axis

Consumption of plant toxins

Viral diseases

Therapy

pregnancy termination using PG + dexamethasone

Caesarean section

Result Extra large fetuses

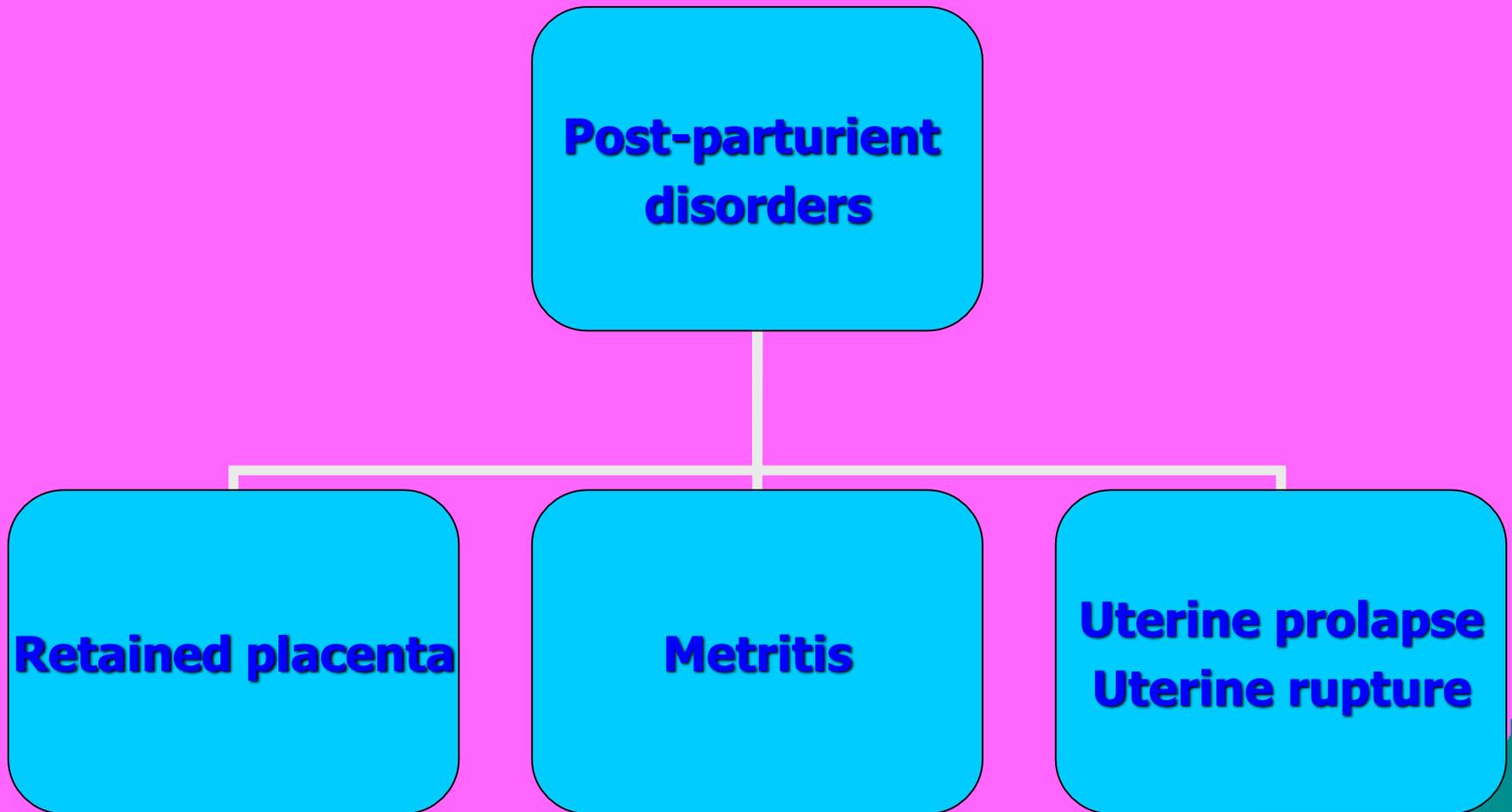
Fetal mummies

delivered with normal fetus or recognised on vaginal or sonographic examination.

Therapy PG + dexamethasone or caesarean section.



Post- parturient disorders



Retained Placenta



- ◆ Known to occur both in sheep and goats
- ◆ More prevalent in young goats

ETIOLOGY

- ◆ Vitamin A deficiency
- ◆ Obesity, hypocalcaemia
- ◆ Infectious disease

THERAPY

- ◆ Manual removal
- ◆ Prostaglandin Injections
- ◆ Oxytocin
- ◆ Uterine echbolics

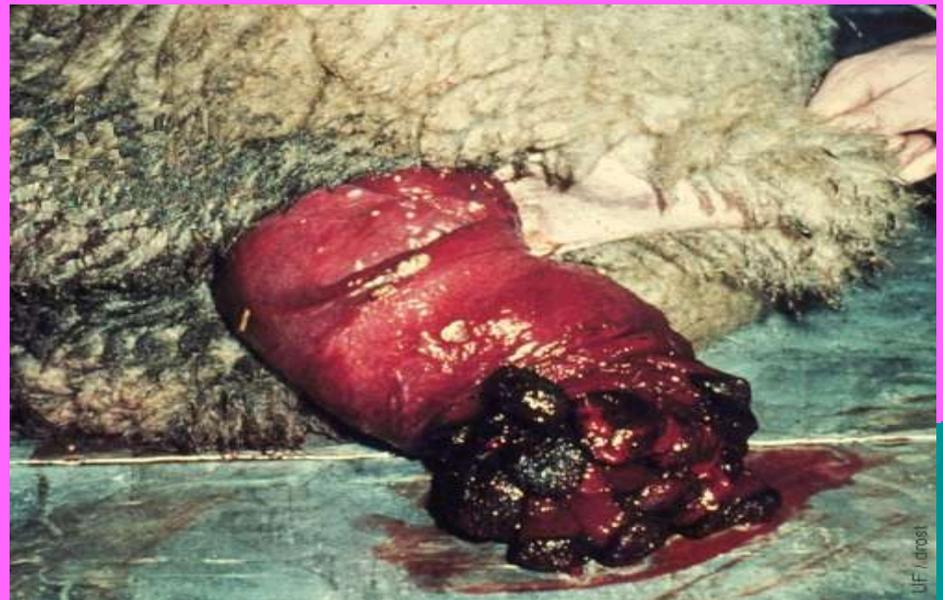
Post Parturient metritis

- ◆ Uncommon in sheep common in goats
- ◆ **Cause:** Poor hygiene at kidding/ lambing
- ◆ **Therapy:** Intrauterine/ Parenteral antibiotics
Prostaglandin injections

Post parturient disorders (Purohit et al., 2006)

Retained placenta	51.5%
Post-parturient metritis	38.3%
Vaginal prolapse	4.4%
Uterine prolapse	2.9%
Uterine rupture	2.9%

Vaginal and Uterine prolapses



Cause

Lack of exercise
High estrogenic feeds
Hereditary

- ◆ **Prepartum vaginal prolapse common in sheep and a commercial accessory is available for therapy**
- ◆ **Post partum- replacement calcium therapy**



Uterine ruptures

- ◆ Common subsequent to dystocia handling by breeders using undue force on a maldisposed fetus. Rarely spontaneous rupture is possible.
- ◆ Referred to vet when Intestinal loops prolapse out
- ◆ Emergency laparotomy suggested
- ◆ Sometimes repair not possible
- ◆ Potent antibiotic therapy is suggested
- ◆ Prognosis is poor to fair

Pre and Post parturient care

- ◆ Ultrasonography is a good preparturient diagnostic tool. Regular scanning is useful. Scanning at 3-4 months appears important, it can give clues to conditions like twin fetuses, fetal mummification, pseudopregnancy. Evaluation of fetal viability can lead to decision on the manner of dystocia handling.
- ◆ Deworming and vaccinations are suggested 1 month before lambing
- ◆ Supplementary feeding with mineral vitamins can avoid subsequent retained placenta etc.
- ◆ Close monitoring and timely help can prevent dystocia
- ◆ Post partum hygiene is important in prevention of many problems

THANK YOU

