

# Reproductive disorder disease

In simple language this can be defined as a disease affecting that leads to infertility or sterility

**fertility** : ability of an animal to reproduce

**Infertility** : temporary inability of the animal to reproduce

**Sterility** : permanent inability of the animal to reproduce

Causes :

1-anatomical (hereditary disease) or structural defect

2-functional defect(hormonal disease)

**3-infection causes**

4-management causes

## Oophoritis / ovaritis

Inflammation / infection of ovary

**Causes :**

- 1- Secondary to trauma
- 2- infection through uterus
- 3- extension of infection through uterine walls

**Treatment :**

Not easy . Supportive treatment .

If infection extended through uterus treatment of the condition



# Salpingitis

Single para-ovarian cyst



Pyosalpinx in the right and left oviducts



# Salpingitis

Unilateral hydrosalpinx in the right oviduct



Bilateral hydrosalpinx



# *endometritis*

*"Inflammation of endometrium extending not deeper than the stratum spongiosum is called endometritis".*

## **Clinical signs :**

- 1- White or whitish-yellow **mucopurulent vaginal discharge** comes out when a diseased cow sit down.
- 2- mucopurulent discharge **at the time of estrous**.
- 3- **No signs of systemic illness** like septic puerperal metritis.
- 4- **Repeat breeding** and failure of conception are the most common symptoms of endometritis

## **Classification :**

- 1- **Clinical endometritis**: When the uterine discharge is thrown by the animal, is mucopurulent, it is called clinical endmetritis.
- 2 - **Subclinical endometritis**: When the uterine discharge is thrown by the animal is almost **clear**, but give positive reaction to white side test, this condition is called subclinical endometritis

## Treatment:

(1) **Antimicrobial therapy** Oxytetracycline treatment is effective in most of the mixed bacterial infection that exists in the early post-partum uterus.

### (2) **Hormonal therapy:**

**A- Oestradiol valerate** - Dose 3 to 10 mg. I/M. This treatment can be repeated at an interval of 7 days if required.

**B-Oxytocin:** Administer low dose (10 to 20 IU) of oxytocin within 4 to 6 hours of the oestrogen injection.

**C- PGF<sub>2</sub> $\alpha$  analogues:** When corpus luteum is present, PGF<sub>2</sub> $\alpha$  is the most successful treatment both in terms of cure rate and calving to conception interval. Lutalyse 5 ml. I/M.

### (3) **Supportive therapy**

Mineral mixture containing Vit. A, D & E helps in regeneration of damaged endometrium and enhances immunity and tone of the uterine muscles

# Endometritis in cow



# Use metricure to treatment endometritis

20 ml injector with uterus pipette  
each syringe contains 500 mg cephapirin

**Use metricure**





# Septic puerperal metritis

## **Puerperal metritis:**

*Metritis is the inflammation of the entire thickness of uterine wall (endometrium, myometrium and serosa). When it occurs just after parturition, it is called puerperal metritis.*

## **Symptoms:**

The septic puerperal metritis exclusively occurs during puerperal period i.e. within 2-4 days after parturition. Affected animals show both local and general symptoms.

## **General symptoms:**

- 1- Depression
- 2- Anorexia
- 3- Hyperthermia followed by hypothermia
- 4- Tachycardia (96-120 beats/min)
- 5- Respiration rate high (60-72 times / min, normal 15-20 times / min)
- 6- Cool skin and extremities
- 7- Foul-smelling diarrhoea
- 8- Dehydration because the affected cow does not drink normally

# Septic puerperal metritis

9- Anuria

10- Congested mucosa with an increased capillary refill time

11- Muscular weakness, leading to decumbency

12- Marked drop in milk production

13- Rumen contraction reduced or absent

14- Septic shock and death

- **Localized symptoms:**

- Large quantities of foul-smelling, dark brown to red fluid containing pieces of degenerating fetal membranes comes out from the uterus through the vagina.

- Frequent straining.

## treatment

- 1- **Antimicrobial therapy** e.g., penicillins, I/M or IV for several days until recovery occurs
- 2- **Glucocorticoid** (Dexamethasone) should be used in severe case to prevent septic shock.
- 3- **Fluid and electrolytes** :-
- 4- If the cow is continually straining, caudal **epidural anesthesia**
- 5- **Remove the retained fetal membranes** by very gentle external traction, if possible otherwise leave it as it is.
- 6- **Vitamin B-complex** with liver extract : intramuscular for three days.
- 7- **ceftiofur** hydrochloride (**Excenel**<sup>®</sup>, Pfizer Animal Health, Madison, NJ) and **ceftiofur crystalline-free acid (Excede)** which are broad-spectrum third-generation cephalosporins, and **Liquamycin LA-200** (Pfizer Animal Health), a long-acting oxytetracycline.

# Pyometra

*Pyometra is characterized by the accumulation of pus in the uterus and by a retained corpus luteum with failure of estrous". it classified closed pyometra or open pyometra*

## **Clinical Signs :**

1- In postpartum pyometra, the cervix does not remain too tight. So some of the pus escapes when the cow lies down, urinates or defecates.

2- Fail to show estrous symptoms.

3- per-rectal examination:

A- Uterus remains enlarged both the sides.

B- Uterine wall is thicker than what it is during pregnancy

C- Presence of corpus luteum

D- Uterus has more ' doughy' (uterus is felt like soft balls of wheat-flour when fingers are pressed into)

E- No caruncles

# Treatment

**1- Oestrogen and Oxytocin therapy:** Oestradiol valerate 3-10 mg. intramuscularly followed by Oxytocin 20 IU - 40 IU 24 hours later to sensitize the myometrium and dilate the cervix.

**2-The best treatment is the use of PGF<sub>2</sub> $\alpha$  analogues** like lutalyse (5 ml I/M). These cause regression of the corpus luteum, dilatation of the cervix and expulsion of pus within 5-7 days. Evacuation of the uterus is indicated by the signs of estrus.

**3- Antimicrobial therapy:** antibacterial drug is to be infused into the uterine lumen after expulsion of pus, penicillin is the drug of choice because after 25 to 30 days postpartum only *c.pyogenes* and Gram-negative anaerobes remain in the uterus of most of the cows with metritis or pyometra.

**4- Iugals iodine 0.5% intra uterine therapy :**(0.5gram iodine +1gram potassium iodine complete to 100ml distal waters ) use 100- 500ml according to size of uterus.

# Pyometra

- 1- anestrus
- 2- persist corpus luteum
- 3- cervix closed or open
- 4- Uterine wall is thicker
- 5- Uterus has more' doughy
- 6- symmetric uterine horn
- 7- found pus in the uterus
- 8- no thrilling of middle uterine artery
- 8- treatment by prostaglandin

# pregnancy

- 1- anestrus
- 2- found CL
- 3- the cervix closed
- 4- Uterine wall is thin wall
- 5- slipping of fetal membrane
- 6- asymmetric uterine horn
- 7- found fetus and caruncles in uterus
- 8- thrilling of middle uterine artery
- 8- prevent give prostaglandin because leads to abortion

# Open pyometra



Pyometra in cow



pregnancy





# Cervicitis

**definition** Inflammation of cervix is associated with metritis following abnormal parturition through vaginal contamination.

## Symptoms :

external os is edematous , swollen , prolapsed external fold .  
Reddish mucopurulent cervical mucosa

## Treatment :

- 1- Painting with lugol's iodine
- 3- Uterine douche



Figure 7: Ewe Cervix .Showed Cervicitis Lesion.

# Vaginitis

**Definition** :often secondary to metritis or cervicitis . Also as result of trauma and laceration .

## Causes :

- 1- non spesific infection like strep.cocci , staph.cocci , corynebacterium.
- 2- specific causes like IBR, trichomonasis and vibriosis

## Symptoms :

Mucopurulant yellow grey pus is discharged through vulva at irregular interval . On vaginal examination exudate is noticed on the vaginal floor , vaginal wall is inflamed , congest and edematous.

## Treatment :

- 1- Flashing of vagina with mild antiseptics
- 2- Antibiotic infusion

## Granular vulvo - vaginitis

It is an infection disease of vulva and vagina characterized by :development of small elevated pustules or granules . The lesions are more common on the vulva than in vagina . In acute cases the pustules are highly inflamed causing a mucopurulent discharge , which may hang , or mat the hair coat around the tail.

### Treatment

- 1- flushing with antiseptics .
- 2- antibiotics including local application

# Abortion

Infectious Causes: \*Especially if abortion storm!

- **Bacterial**

- *Brucella spp*
- Listeriosis
- Leptospirosis
- *Arcanobacterium pyogenes*
- Vibriosis

- **Protozoal**

- Trichomonas
- Neospora

- **Viral**

- IBR
- BVD

- **Mycotic**