

# Postpartum uterine infection (Puerperal Metritis)

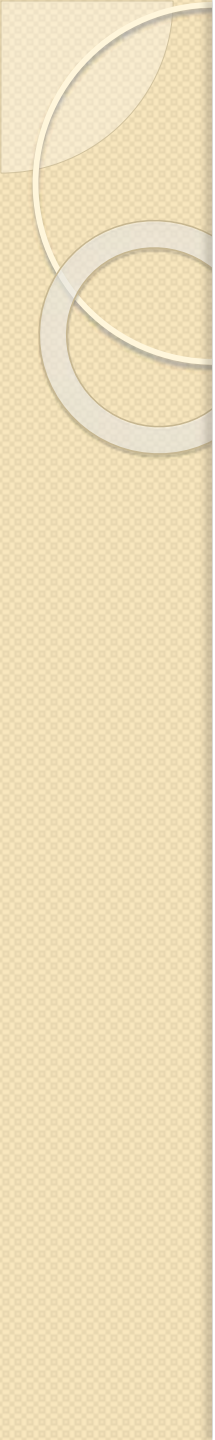



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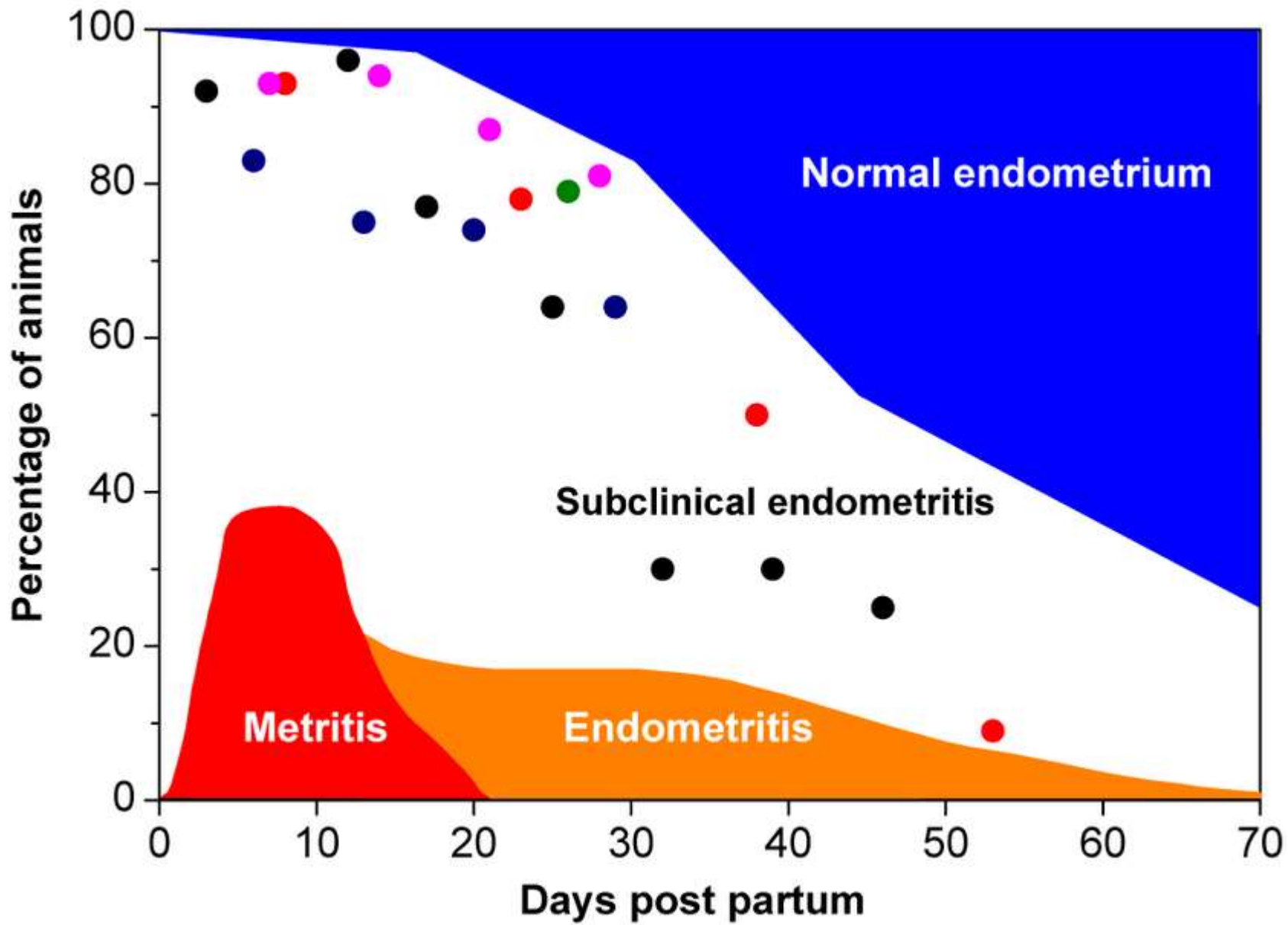
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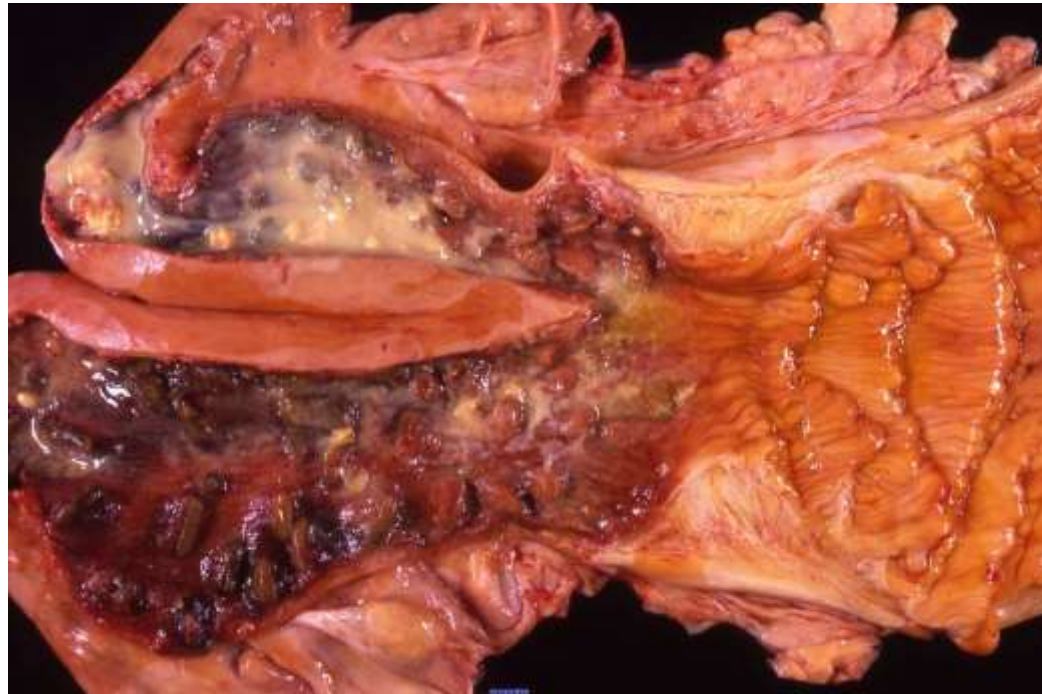
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- The uterus is normally protected from bacterial contamination by the vulva, vestibular sphincter and cervix.
  - During and immediately after parturition, these mechanical barriers are breached and the uterus is normally contaminated by a variety of pathogenic and nonpathogenic microorganisms.
  - Mostly bacteria are only transient residents which are promptly eliminated by uterine defense mechanism during puerperium.

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- **Puerperal period:** It begins at the time of calving and continues until the pituitary gland becomes sensitive to GnRH at 7 to 14 days postpartum.
  - **Intermediate period:** It begins with increased pituitary sensitivity to GnRH and continues until the first post-partum ovulation.
  - **Post ovulatory period:** It begins at the time of first ovulation and last until involution is complete. It is about 45 days post-partum in normal cows.

- **Metritis** is a result of severe inflammation involving all layers of the uterus (endometrial mucosa and submucosa, muscularis and serosa).
- **Endometritis** is characterized by inflammation of the endometrium extending no deeper than the stratum spongiosum.
- **Pyometra** is characterized by accumulation of purulent exudates of variable amount within the endometrial cavity, persistence of a corpus luteum and suspension of the estrous cycle.

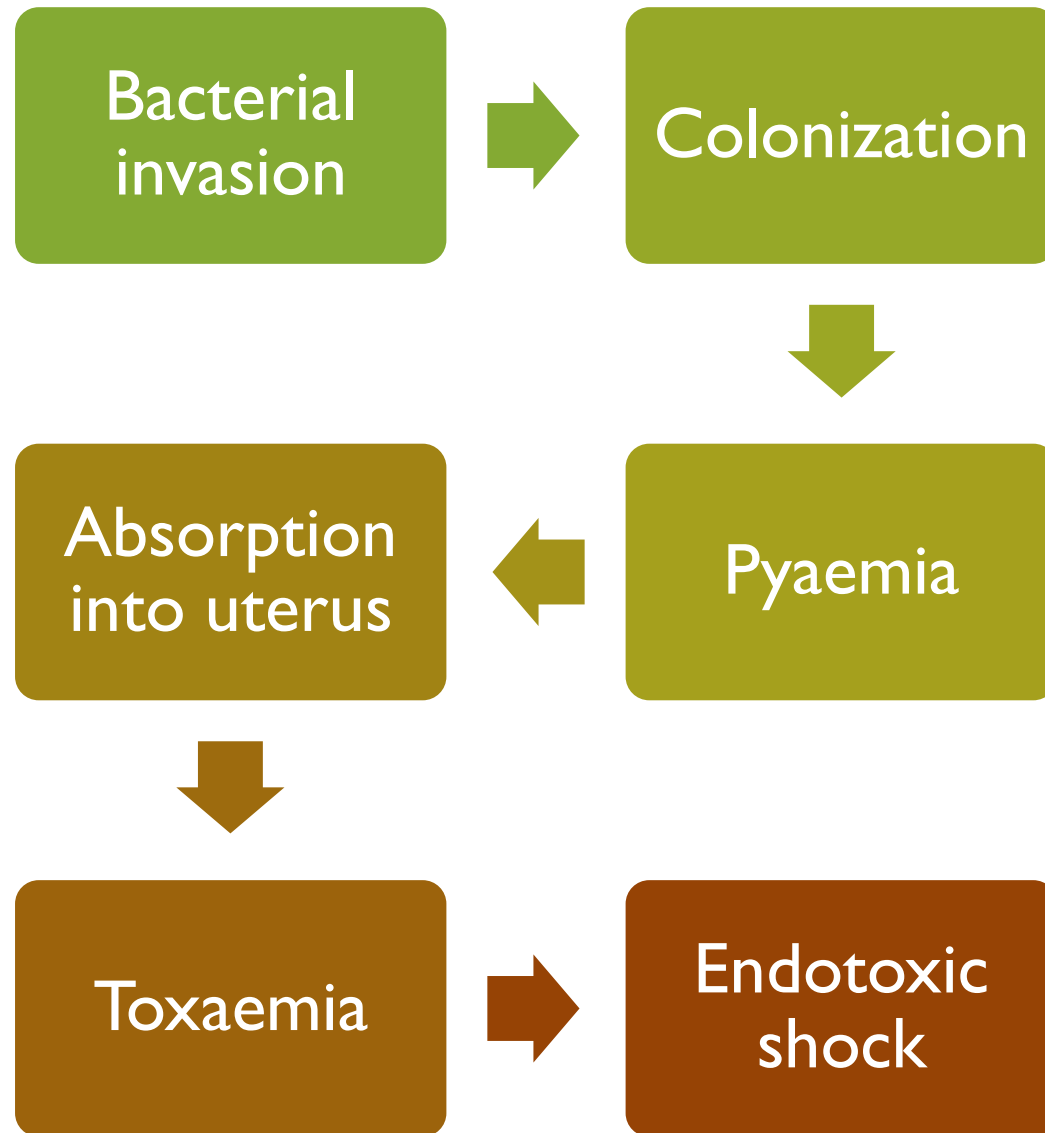


# Puerperal Metritis



# Etiology

- Occurs within a few days of parturition.
- Follows an abnormal 1<sup>st</sup> or 2<sup>nd</sup> stage of labour esp. after dystocia.
- Associated with –
  - a. Uterine inertia
  - b. Premature calving
  - c. Twin births
  - d. ROP
  - e. Dystocia






- Most important bacterial species are:
  - a) *Actinomyces pyogenes*
  - b) *Fusobacterium necrophorum*
  - c) *Bacteroides melaninogenicus*
  - d) *Pseudomonas aeruginosa*

# Symptoms

- Elevated temperature (40-41°C), often subnormal
- Fast weak pulse
- Rapid respiration
- Anorexia
- Moderate to severe dehydration
- 'Toxaemia induced diarrhoea'
- Swollen, congested vulva and vagina


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- Swollen cotyledons with fetal membranes firmly attached.
  - Uterus contains large volume of toxic, fetid, reddish, serous exudate with degenerating fetal membranes
  - Fluid is discharged from vagina with expulsive straining
  - Many animals develop mastitis esp. if recumbent and hypocalcaemic


# Differential diagnosis

- Metabolic hypocalcaemia
- Ruptured uterus
- Retained fetus
- Diffuse peritonitis
- Acute toxic mastitis
- Salmonellosis

# Treatment

- Requires good nursing and vigorous medication
- Comfortable bedding, clean and warm premises
- Fluid therapy to stabilize the animal
- NSAIDS – Flunixin meglumine @ 2.2mg/kg b.wt.  
(drug of choice due to anti-endotoxic effects)

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- Antibiotic therapy
  - Parenteral antibiotics should be given
  - Ceftriaxone is effective
  - Oxytetracycline useful as can be given at high dose i/v.
  - Oxytocin @ 50 IU can be useful, if given within 72 hours.
  - Calcium should be given

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- Estrogens are contraindicated, as they increase absorption of endotoxins from uterus.
  - Retained membranes should not be removed manually
  - Uterine lavage can be done once the animal is stable, but large volumes of fluid should not be infused into uterus as it is friable and may rupture.

# Response to treatment

- Resumption of appetite.
- Cessation of diarrhea
- Presence of a less fetid and thick vaginal discharge.
- Recovered cases inevitably show a mucopurulent discharge or leucorrhoea, due to chronic endometritis.