

Postpartum uterine infection (Puerperal Metritis)



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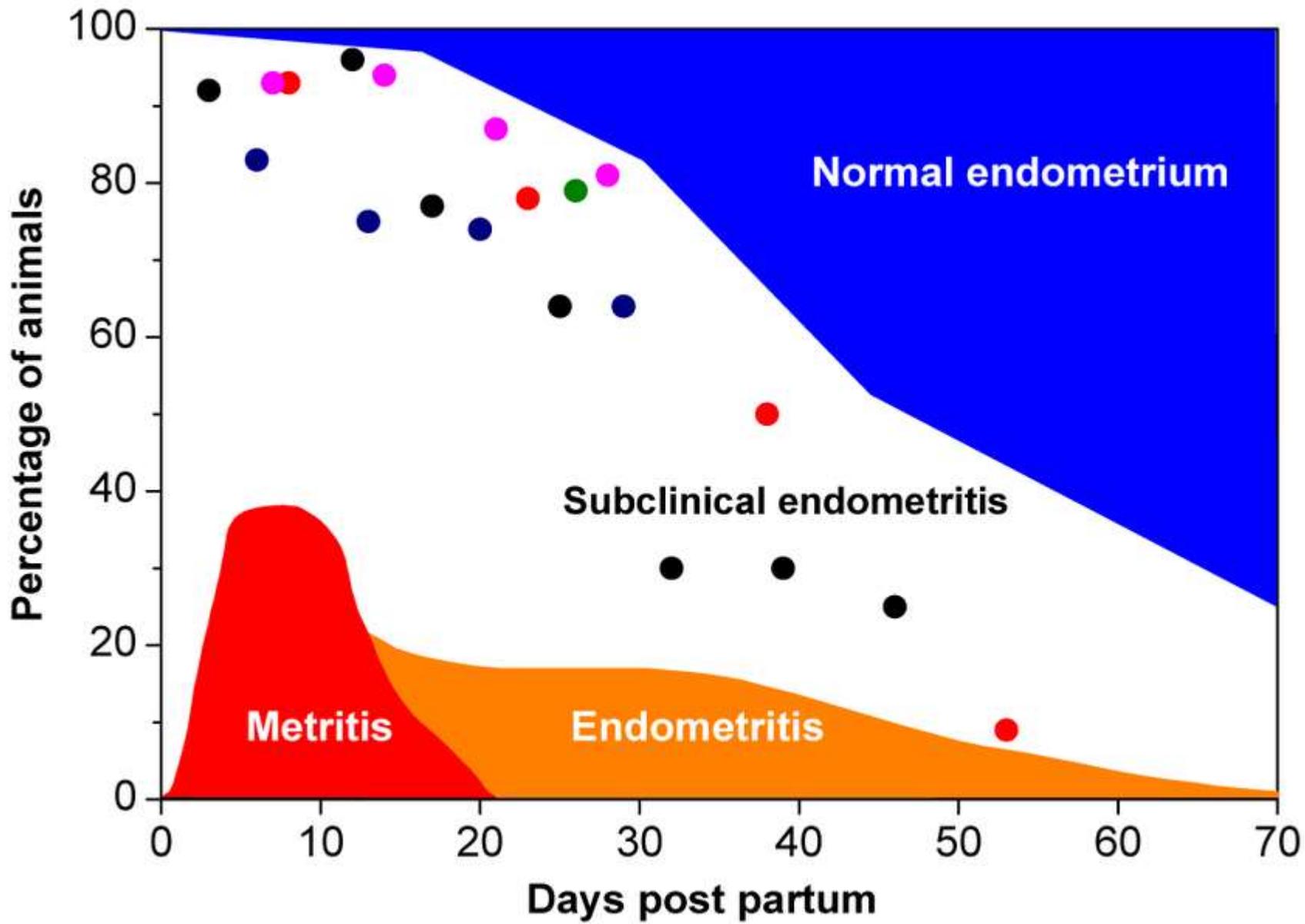
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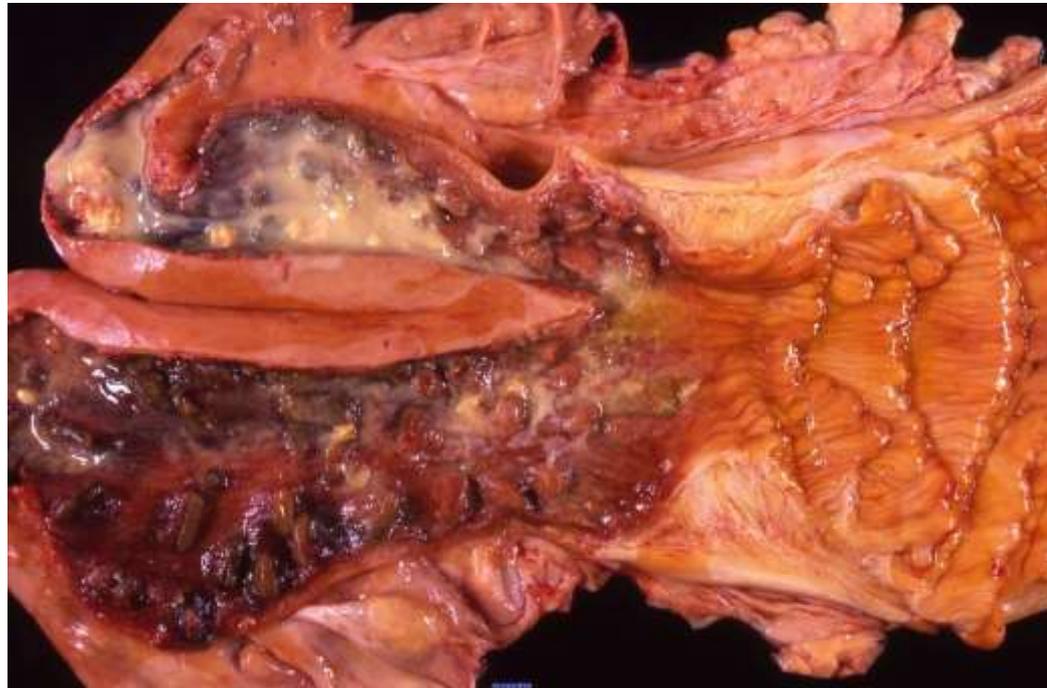
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- The uterus is normally protected from bacterial contamination by the vulva, vestibular sphincter and cervix.
 - During and immediately after parturition, these mechanical barriers are breached and the uterus is normally contaminated by a variety 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.

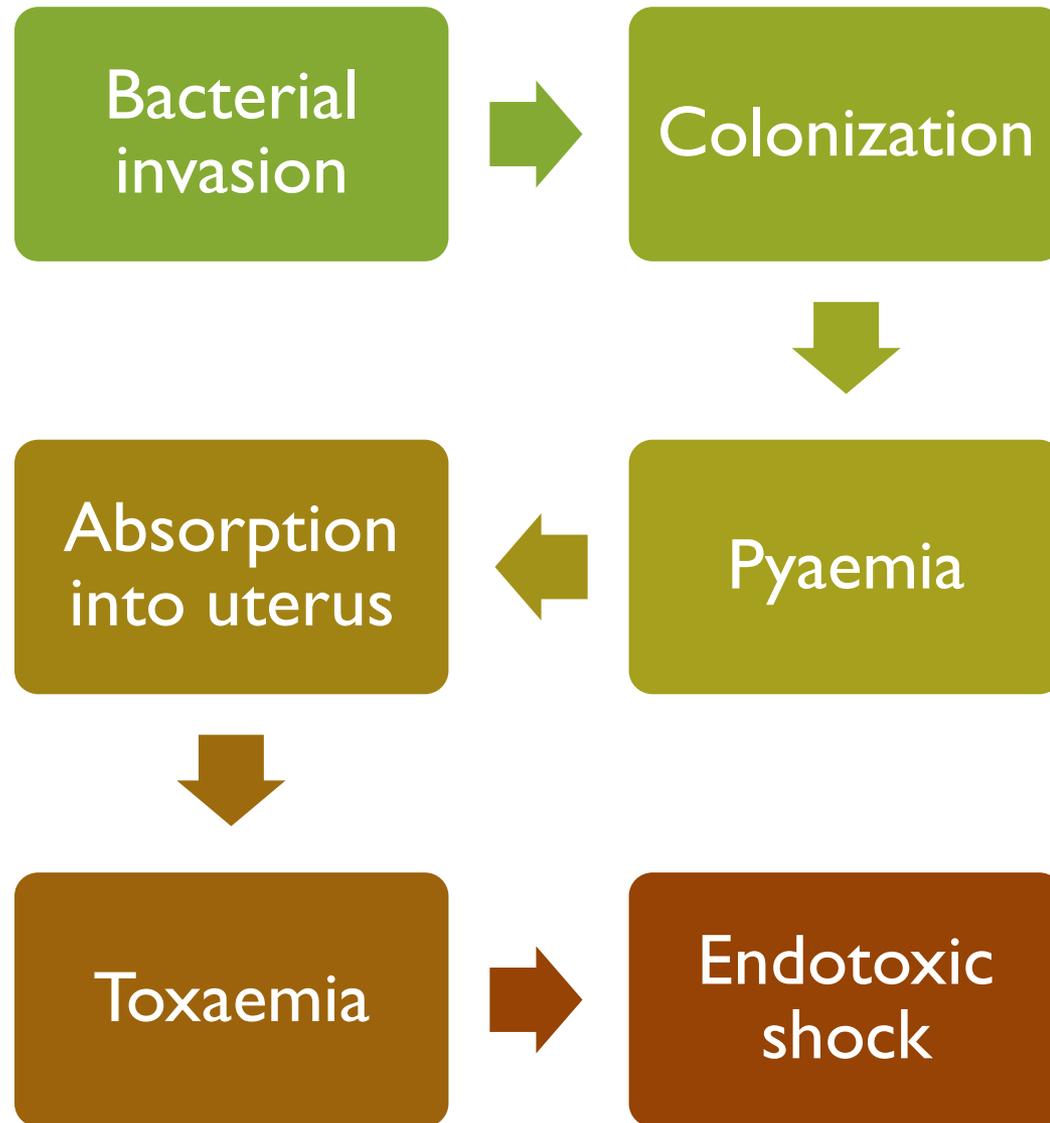


Puerperal Metritis



Etiology

- Occurs within a few days of parturition.
- Follows an abnormal 1st or 2nd 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.