



Common postpartum complications in bitch- A challenge to Veterinary practitioners

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Introduction

Post-partum complications are rarely encountered in bitches. If occur mean it considered as emergency and required early medical treatment. The commonly encountered post-partum complications are *acute metritis*, *sub-involution of placental sites*, *eclampsia*, *mastitis*, *galactostasis* and *agalactia*. Among post-partum complication cases eclampsia and acute mastitis are considered as dangerous as other clinical condition.

Postpartum Complications

1. Acute metritis: Acute puerperal metritis is a common disease of the immediate postpartum period that occur most probably within 0-7 days postpartum whelping and moreover it is severe inflammation of the endometrium and myometrium causing systemic illness in the bitch. The common causes of acute metritis are as follows: Retained placental membranes or retained foetuses, macerated or decomposed foetuses, assisted delivery, obstetrical manipulation.

Clinical signs

Foul smelling brownish or reddish-brown vaginal discharge characteristic of metritis, normal lochia is not foul smelling and is greenish black in colour. Generalised clinical symptoms like elevated body temperature, anorexia, listlessness, dull and depressed, decreased or absence of maternal instincts behaviour, decreased or absence of milk production.

Diagnosis

Complete blood picture (CBP) reveals leucocytosis with shift to left (a greater number of immature or band cells). Vaginal cytology reveals increased number of degenerated neutrophils, RBC's, debris,



mucus, bacteria and endometrial cells. The best tool is *trans abdominal ultrasonography* that is helps to identify uterine enlargement and presence of intra uterine fluid or pus, retained foetus and retained placentas.

Treatment

Prognosis depends on regular monitoring of the whelped bitches by the owners, early presentation of bitches to the veterinarians for treatment with antibiotic course. Institution of parental fluid therapy through intravenous should be given to stabilize the bitch. Broad spectrum antibiotic therapy should be rapidly instituted. Ovariohysterectomy (OHE) may be indicated if medical management fails and those bitches' future breeding not required. Moreover, antibiotics should be selected on the basis of safety margins for both the dams and the puppies.

2. Sub-involution of placental sites (SIPS)

Uterine involution is completed by *12 weeks postpartum* in normal bitches. SIPS condition occurs when the involution process is delayed. Occurrence of SIPS is higher in primiparous bitches, moreover younger than 3 years of age.

Clinical signs

Bitches have no generalised clinical signs other than vaginal discharge. Bloody or sero-sanguineous discharge without malodour lasting beyond 6 weeks of post whelping is indicative of SIPS (Personal observation).

Diagnosis

General physical examination revealed vital parameters were within the normal range, with vaginal discharge as the only abnormal sign when presentation of cases clinically.

Differential diagnosis

Metritis, Vaginitis, cystic endometrial hyperplasia (CEH), estrogen/progesterone administration, proestrus, accident/trauma, neoplasm and cystitis.

Treatment

As spontaneous recovery will occur, bitches with SIPS do not require medical or surgical therapy. Antibiotics may be suggested only if infection is present with abnormal foul odour vaginal discharges. Ovariohysterectomy (OHE) is advised when future breeding not required.

3. Eclampsia: Eclampsia is an acute, life threatening (alarming) condition seen most commonly in small to medium sized breeds of bitches during early lactation after whelping and rarely in late pregnancy, caused by depletion of serum calcium concentrations in peripheral circulation. This



condition otherwise known as *Hypocalcemia or puerperal tetany*. Etiology includes, improper diet or nutrition of the bitches during perinatal period. Ad-libidum to excess calcium supplementation of the bitch during pregnancy will predisposes to this condition. Increased litter size predisposes for heavy lactation demands.

Clinical signs

Most of the time bitches are affected during the first 21 days of nursing or rarely during the last 20 days of pregnancy. Changes in behaviour such as biting of inanimate objects, irritability and restlessness, increased salivation and appropriately facial pruritis will be seen. Treatment unresponsive cases may progress to ataxia and muscle spasms. The bitch may be unable to stand followed by tonoclonic muscle contractions and seizures occur. Respiratory depression, hypothermia, cerebral edema culminates the bitch to death.

Diagnosis

Based on clinical signs and history, Serum calcium levels in affected dogs ranges from 4.0-7.5 mg/dl.

Differential diagnosis

Hypoglycaemia, Toxicosis, Primary neurological disorders Metritis and mastitis.

Treatment

Slow intravenous administration of 5-10 ml 10% calcium gluconate gives better results. While administration a bitches may require Heart rate must be monitored with auscultation. Moreover, Diazepam may be administered intravenously in case of continuous seizures (Personal observation).

4. Mastitis

Mastitis is inflammatory condition of one or more mammary glands primarily restricted to the post-whelping bitches. It can be diffuse within or among glands or can be localized within a gland. Mastitis may be categorised into any one the followings such as, acute, gangrenous or chronic.

Etiology

Haematogenous spread, through teat orifices ascending grade bacterial infection. The culture characteristics feature revealed presence of either *E.coli* or *Staphylo* groups. Rarely mastitis occur due to trauma from nursing puppies.

a) Acute mastitis Mammary glands are hot to touch and painful. Systemically illness is observed.



b) Gangrenous mastitis: Mammary glands are cool to touch and no painful on palpation. Affected mammary glands appear dark to black and ulcerated. Signs of septicaemia is observed in most of the clinically presented cases (Personal observation).

c) Chronic and sub clinical mastitis: Appears like mammary neoplasia.

Diagnosis

Leukogram shows neutrophilic leucocytosis. More than 3000 WBC counts/ml of glandular secretions indicative of progression of infection.

Differential diagnosis

Galactostasis, Mammary neoplasia, Ulcerative necrosis, sepsis, SIRS.

Treatment protocol

Erythromycin @10mg/kg PO TID for 21 days. Puppies should not be allowed to nurse the severely infected mammary glands which become necrotic or abscessed. The infected glands should be flushed with 1% Betadine twice daily for 2-5 days. Cabergoline @ 5µg/kg PO once daily for 5-7 days can be prescribed to suppress lactation. Surgical excision of mammary glands required when chronic persistently infected glands.

5. Galactostasis: Continuously excessive accumulation of milk in mammary gland(s) with concurrent lack of secretion is referred to as galactostasis.

Clinical signs

Enlargement of mammary glands with presence of residual milk leading to mild to moderate inflammation activity and followed by edema and discomfort.

Diagnosis

History of pseudo pregnant bitches or when nursing young are weaned immediately few days of whelping.

Treatment

Food intake should be reduced to decrease the secretion of milk. Stripping of glands should not be encouraged because it increases the milk secretion. Ice packs, Cool compress may be applied on the engorged glands for 10-15 min at 3 hours interval. Loop diuretic may tried to reduce fluid accumulation for 3 to 5 days, at the same time carefully monitor of the dehydration status is very important. Anti-prolactin drugs may be administered to reduce the milk secretion.

6. Agalactia: Arrest/reduction of milk production and its let down is termed agalactia. The condition is usually uncommon in pet animals. a) *Primary agalactia* -anatomic or physiologic abnormalities,



b) *Secondaryagalactia* may be due to inadequate nutrition, stress, premature parturition, progesterone therapy, mastitis, metritis, psychological problems or systemic illness.

Treatment

Phenothiazine tranquilizers compounds promote increased prolactin release from pituitary and hence, may enhance lactation. Hydration, proper balanced nutrition

Summary

Clinical signs of different post-partum complication cases mimics each other's. So, veterinarians should differentiate the clinical cases as per general diagnostic protocol.

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