



Maternal Behavior Problems

Basics

OVERVIEW

- Abnormal maternal behavior is either excessive maternal behavior in the absence of newborns (more common in cats than dogs) or deficient maternal behavior in the presence of the dam's own newborns (more common in dogs than cats)
- The female dog is known as the “bitch” or the “dam” and the female cat is known as the “queen”

GENETICS

- No genetic basis has been identified in dogs and cats, but a breed tendency in Jack Russell terriers indicates that a genetic component may be involved
- Genetic models of deficient maternal behavior in mice have been identified; the genes responsible for deficient maternal behavior in mice are imprinted paternally—if this situation is true in dogs and cats, one would expect that rejecting mothers were normally mothered themselves, but their grandmother may have been deficient
- The genetic basis should be investigated in dogs and cats

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs
- Cats

Breed Predilections

- Poor maternal behavior may be more common in Jack Russell terriers and cocker spaniels than in other breeds of dog, but no quantitative study has proven this observation

Mean Age and Range

- No particular age at risk, but first-time mothers (known as “primiparous females”) and older bitches seem to be at risk of deficient maternal behavior

Predominant Sex

- Female generally, but some males may allow suckling behavior

SIGNS/OBSERVED CHANGES IN THE PET

Deficient Maternal Behavior

- Absent maternal behavior; the mother simply abandons her offspring—this is most apt to occur after cesarean section

Poor Maternal Behavior

- The mother stays with her offspring but will not allow them to nurse
- The mother may show inadequate retrieval of young, insufficient cleaning of the young, or failure to stimulate elimination (urination and/or defecation) by the young
- The bitch carries the puppies from place-to-place without settling down or, in the most extreme form, kills some

or all of her litter

Abnormal Maternal Behavior

- The bitch or queen may allow her offspring to suckle, but kills her offspring either at birth or over a period of days
- Occasionally the bitch, or more rarely the queen, will abandon or attack her offspring, if it has changed in odor or appearance
- A female may be disturbed by another animal or by people and can redirect her aggression to her offspring
- A bitch accidentally may disembowel or even consume offspring completely while eating the fetal membranes (placenta) and umbilical cord; this should be distinguished from normal licking, which can be quite vigorous, even to the point of dislodging the puppy from a nipple

Maternal Aggression

- Cats (queens) with kittens may be aggressive to other animals, especially dogs in the same household
- Dogs (bitches) with puppies may be aggressive to unfamiliar people or even to familiar people, especially if they have low levels of calcium in their blood (condition known as “hypocalcemia”)

Excessive Maternal Behavior

- The “pseudopregnant” bitch or bitch spayed during the latter phase of the estrous or heat cycle may show signs of a false pregnancy; she attempts to nurse and guards inanimate objects (stuffed animals or even leashes)
- The pseudopregnant bitch may have breast or mammary development and may be producing milk (lactating)
- The newly spayed queen may steal kittens from a nursing queen; queens also may produce milk (lactate) if suckled, following the spay (ovariohysterectomy)

CAUSES

- The presence of kittens in the environment of the recently spayed cat is a risk factor for excessive maternal behavior and kitten stealing
- The risk of excessive carrying of puppies, redirected aggression, or even cannibalism is increased if other dogs or too many people are present in the nest area
- First-time mothers (primiparous females) or those delivered by cesarean section (c-section) are at higher risk than mothers that have delivered previous litters (known as “multiparous females”) or naturally delivering females
- Large litter of kittens or sick offspring

Treatment

HEALTH CARE

- Normal health care

DIET

- Adequate diet for nursing bitches and queens to meet energy demands
- Restricted diets for pets with false pregnancies (known as “pseudocyesis”), to discourage lactation and diminish milk production
- In the case of deficient maternal behavior, the bitch or queen should be fed free choice (known as “ad libitum”) to encourage lactation

SURGERY

- Delay spaying for 4 months post-estrus to avoid post-spaying maternal behavior and its accompanying aggression
- Spaying avoids future excessive maternal behavior in the absence of young

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

EXCESSIVE MATERNAL BEHAVIOR

- Mibolerone (Cheque Drops) was the drug of choice for bitches with false pregnancies or those exhibiting maternal behavior and lactation following spaying; mibolerone inhibits prolactin (the hormone that stimulates secretion of milk) and thereby inhibits lactation; this medication is no longer available commercially and is available only at some compounding pharmacies
- Bromocriptine (Parlodel) can be used to inhibit prolactin
- Cabergoline inhibits prolactin and has been shown to be effective in treating false pregnancies in dogs; not commercially available in North America

DEFICIENT MATERNAL BEHAVIOR

- Oxytocin (the hormone that stimulates milk release during nursing) may be administered either by injection or by nasal spray (Syntocinon)
- Prolactin (the hormone that stimulates secretion of milk) appears to be necessary for maternal behavior in other species; therefore, a dopamine blocker (acepromazine) can be used; dopamine inhibits prolactin release and thus a dopamine blocker would increase prolactin

Follow-Up Care

PATIENT MONITORING

- The puppies or kittens of females with deficient or poor maternal behavior should be monitored daily to be sure that they are gaining weight

PREVENTIONS AND AVOIDANCE

- Place a nursing female and her litter in quiet, comfortable quarters—away from noise and disturbances by other animals or people
- Do not rebreed females with poor maternal behavior; deficient maternal behavior can occur with each litter
- Determine whether any other female offspring of the female with abnormal maternal behavior also exhibited poor maternal behavior
- In other species, poor maternal behavior is a paternally imprinted gene; the father must contribute the gene for poor maternal behavior; the daughters of rejecting mothers will not reject, but daughters of their sons may have poor maternal behavior

POSSIBLE COMPLICATIONS

- Loss of offspring
- Hand-reared puppies and kittens frequently have abnormal or deficient social behavior, due in part to insufficient suckling time and to consequences of lack of maternal licking, which adversely affects response to stress and reproductive behavior

EXPECTED COURSE AND PROGNOSIS

- Excessive maternal behavior usually wanes around the time of normal weaning (6–8 weeks)
- Poor and deficient maternal behavior can occur with each litter

Key Points

ABNORMAL OR POOR MATERNAL BEHAVIOR

- The bitch that is carrying her puppies or exhibiting redirected aggression to them should be isolated in a quiet, dark area
- The bitch that bites her puppies should be muzzled; the owner must stimulate elimination (urination and/or defecation) of the puppies, because the muzzled female cannot do so
- An Elizabethan collar inhibits cannibalism in queens
- The bitch should be attended at the birth of the litter (known as “parturition”) and puppies should be removed temporarily if she is biting the puppies themselves in addition to the umbilical cord
- Bitches and queens with poor maternal behavior may exhibit the same behavior with subsequent litters

EXCESSIVE MATERNAL BEHAVIOR

- Cats that have stolen kittens should be separated from the biological mother and kittens

- Mothered objects (such as stuffed toys) should be removed from the “pseudopregnant” bitch (that is, the bitch having a false pregnancy)
- Food intake should be restricted to inhibit milk production (lactation)

MATERNAL AGGRESSION TOWARD ANIMALS OR PEOPLE

- The best treatment for excessive maternal aggression is to separate the kittens; weaning alone may not suffice because the presence of the kittens alone may sustain or even reinstate maternal aggression in a queen separated from her kittens for several weeks

Notes

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