Mammary Gland Enlargement in Female Dogs

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DIAGNOSTIC TREE

ENLARGED MAMMARY GLAND(S) OBSERVED

INVESTIGATION
Obtain history; conduct physical examination:
- Reproductive history/mammary gland palpation
- Mammary gland discharge evaluation/cytology
- Measure total T4, cTSH levels

Intact

INVESTIGATION
Check for pregnancy

- Before 25-30 days: perform ultrasonography
- After 25-30 days: relaxin testing
- After 45 days: perform radiography
- Check for normal progression of pregnancy

Pregnant

DIAGNOSIS
Galactosis

TREATMENT
- Avoid “stripping” milk from teats
- E-collar to prevent excessive grooming
- If not resolving, consider dopamine antagonist (eg, cabergoline, domperidone)

Not pregnant

DIAGNOSIS
Pseudopregnancy

TREATMENT
- Avoid “stripping” milk from teats
- E-collar to prevent excessive grooming
- If not resolving, consider dopamine antagonist (eg, cabergoline, domperidone)

INVESTIGATION
Check for pregnancy

- Estrus cycle within past 3 months
- Potential mating
- Milky discharge

Older patient
- Asymmetric, nonpainful mammary gland masses

INVESTIGATION
Before 25-30 days: perform ultrasonography
- After 25-30 days: relaxin testing
- After 45 days: perform radiography
- Check for normal progression of pregnancy

Not pregnant

DIAGNOSIS
Mastitis

TREATMENT
- Warm packing, massage
- If dam systemically ill, multiple glands involved, or gangrene present, wean or remove and hand-raise pups; E-collar to prevent grooming
- Pups should be gradually weaned, as milk production exacerbates condition
- Avoid “stripping” milk from teats
- Antibiotics based on culture and susceptibility results of mammary gland discharge
  - Clavulanic acid/amoxicillin, cephalaxin safe for neonates
- Pain management
  - Tramadol safe for neonates
  - IV fluids/supportive care as needed

Nursing or recently weaned
- Purulent/bloody discharge
- Warm, painful mammary gland

Estrus cycle within past 3 months
- Potential mating
- Milky discharge

Potential mating
- Estrus cycle within past 3 months
- Milky discharge
INVESTIGATION
Obtain history and perform physical examination to check for:
- Thorough examination of MG chain for masses
- Exposure to exogenous hormones (eg, human estrogen cream/spray)
- Unclear OVH history (potential ovarian remnant)
- Previous signs of estrus: bleeding, marking, vulvar swelling, flagging, attraction of males
- Signs of pseudopregnancy: weight gain, nesting/suggestive behavioral change, appetite change (see PSEUDOPREGNANCY)

TREATMENT
- Lumpectomy
- Submit excised mass for definitive diagnosis
- Chain removal if malignant and more than one mammary gland affected or local lymph nodes involved

INVESTIGATION
Examine patient for clinical signs:
- Polyuria/polydipsia
- Recurrent skin/urinary tract infections
- Alopecia (nonpruritic, bilateral, symmetrical)
- Panting
- Temporal muscle atrophy
- Polyphagia

INVESTIGATION
Perform diagnostic testing:
- CBC, serum chemistry profile, urinalysis
- Abdominal ultrasonography
- ACTH stimulation test/low-dose dexamethasone suppression test/urine cortisol:creatinine ratio (home-caught sample)
- Measure total T4, cTSH levels

DIFFERENTIAL
Endocrinopathy
- Hyperadrenocorticism
- Hypothyroidism (less likely) – If spayed after several estrus cycles

DIAGNOSIS
Mammary gland masses

DIAGNOSIS
Ovarian remnant syndrome

TREATMENT
Exploratory surgery/remnant removal

AMH = Anti-Müllerian hormone
FNA = fine-needle aspirate
HCG = human chorionic gonadotropin
LH = luteinizing hormone
OVH = ovariohysterectomy