VAGINAL TUMORS

PATHOPHYSIOLOGY

+ GENERAL CONSIDERATIONS

- Vaginal & vulval tumors are the 2nd most common canine reproductive tumor & account for 2.4%-3.0% of all canine tumors
- Majority of vaginal & vulval tumors are benign:
- Leiomyoma & fibroma in cat
- Leiomyoma & lipoma in dog

+ LEIOMYOMA

- 86% of vaginal & vulvar tumors are benign smooth muscle tumors (i.e., leiomyoma & fibroma)
- Majority of leiomyomas arise from vestibule of vulva rather than vagina
- Extraluminal & intraluminal forms have been described:
- Extraluminal present with a slow-growing perineal mass
- Intraluminal are attached to vestibular or vaginal wall by variably sized pedicle & can be multiple
- Mucosa is generally intact but ulceration may occur with exposure & irritation
- Leiomyoma may be hormone dependent:
- Leiomyoma has not been diagnosed in dogs ovariectomized < 2 years
- 15% local tumor recurrence rate in intact & 0% in dogs following ovariohysterectomy
- Mean age 10.8 years
- Breed predisposition: Boxer
- Incidence of leiomyoma higher in nulliparous bitches
- 33% associated with cystic endometrial hyperplasia, ovarian cysts, & mammary gland tumors

+ LIPOMA

- Lipoma can arise from perivascular or perivaginal adipose tissue & attach to tuber ischii
- Lipoma can lie within pelvic canal & are usually well-circumscribed & relatively avascular
- Mean age 6.3 years

+ TRANSMISSIBLE VENEREAL TUMOR (TVT)

- TVT occurs in ~4-year-old dogs with increased risk in free roaming dogs
- Cell origin of transmissible venereal tumors is unknown, but an undifferentiated round cell tumor of reticuloendothelial origin is most likely
- Transmissible venereal tumors have a common origin as chromosomal aberrations are constant & highly specific
- Virus particles have been identified in transmissible venereal tumors
- However, viral etiology is unlikely as the disease cannot be transmitted by cell-free filtrates
- Transmissible venereal tumors are transmitted by contact with genital mucous membranes during coitus
- Transmissible venereal tumors appear as multiple tumors along the mucosal lining of the vagina & vestibule

+ OTHER

- Benign tumors: sebaceous adenoma, fibrous histiocytoma, benign melanoma, myxoma & myxofibroma
- Malignant tumors: leiomyosarcoma, ADC, SCC, TCC, HSA, OSA, MCT, & epidermoid carcinoma
- Carcinoma of bladder or urethra may present with palpably enlarged urethral papilla

CLINICAL FEATURES

+ CLINICAL SIGNS

- Duration of clinical signs longer for extraluminal compared to intraluminal leiomyoma
- Intraluminal leiomyoma often presents as mass extruding between vulval lips, particularly during estrous
- Other clinical signs include vulval bleeding or discharge, enlarging vulvar mass, dysuria, hematuria, tenesmus, excessive vulval licking, & dystocia
- Lipomas usually present with a slowly growing mass impinging on adjacent structures

+ DIAGNOSIS

- Vaginoscopic examination, retrograde vaginography, & urethrocystography may delineate mass
- Ultrasonography, FNA, & histopathology

TREATMENT

+ MEDICAL MANAGEMENT

- Local tumor recurrence rate is high for dogs with transmissible venereal tumor & surgery is not recommended
- Transmissible venereal tumors are very response to chemotherapy & radiation therapy
- Chemotherapy: vincristine 0.5-0.7 mg/m 2 IV 4-8 times ± doxorubicin

+ SURGICAL MANAGEMENT – BENIGN TUMORS

- Exploratory celiotomy for ovariohysterectomy (due to hormonal dependence & local tumor recurrence)
- Conservative surgical resection
- Wide resection probably not required if ovariohysterectomy performed concurrently
- Dorsal episiotomy may be required to provide adequate visualization & ensure complete resection
- Dorsal episiotomy indicated for extraluminal vaginal & vulvar tumors as tumors are usually well-circumscribed & poorly vascularized resulting in good probability of complete excision
- Perineal approach or pubic split is rarely required

+ SURGICAL MANAGEMENT – MALIGNANT TUMORS

- Malignant infiltrative vaginal tumors treated with complete vulvovaginectomy & perineal urethrostomy
- Sternal recumbency in perineal stand with perineum elevated
- Urethra catheterized
- Fusiform skin incision performed around vulva
- Deeper tissues sharply dissected from labia & vestibule
- Constrictor vestibuli & constrictor vulvae muscles are dissected from the vestibule
- Dorsal labial branches of the ventral perineal artery are ligated or bleeding controlled with electrocautery
- Catheterized urethra identified & dissected free from encircling constrictor vestibuli muscles

- Vagina dissected with transection of ischiocavernosus & ischiourethralis muscles
- Dissection continued cranially between paired levator ani muscles to level of cervix
- Vaginal branches of vaginal & uterine arteries & veins ligated
- Vagina transected immediately caudal to cervix in intact bitches or cervix & uterine stump removed in spayed dogs
- Deep tissues closed to reduce dead space
- Perineal urethrostomy performed with transected urethra tractioned caudally, distal end spatulated, & closed in 2 layers with final layer mucosa to skin

+ PROGNOSIS

- Complete surgical excision is usually curative
- Guarded to poor prognosis with ADC, TCC, & SCC due to high local tumor recurrence & metastatic rates

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