Surgical Case Report:  

Urogenital Neoplasia

Fourth in a Series on Oncologic Surgery

EMPHASIS:

Urogenital tumors are common in dogs, but rather rare in cats. Obviously, the surgical procedures and the prognosis will depend on the tumor type and the organ involved. In this article, a general overview of the surgical aspects of urogenital neoplasia will be presented.

We would like to thank Dr. Mona Rosenberg, DACVIM (Oncology) and Dr. Sue Downing, of the Veterinary Cancer Referral Group, for their invaluable advice in preparing this series of articles.

PREOPERATIVE DIAGNOSTICS:

For a detailed discussion, please refer to Dimensions in Surgery #179: Principles of Oncologic Surgery.

OVARIAN NEOPLASIA

1. Most common tumor types:
   a. Granulosa cell tumor: these can be extremely large in the dog.
   b. Adenomas and adenocarcinomas.
   c. Numerous other tumors including teratomas, Sertoli cell tumors, dysgerminomas, etc.

2. Ovarian tumors are often associated with abnormal estrus cycles, pyometra and (with estrogen-secreting tumors) aplastic anemia.

3. Routine ovariohysterectomy is advised in all cases.

UTERINE NEOPLASIA

1. Leiomyoma is the most common.
2. Leiomyosarcoma, fibromas or fibrosarcomas, and adenomas or adenocarcinomas may also be seen.
3. Ovariohysterectomy is advised in all cases.

AXIOM: If the tumor involves the uterine body, delicate dissection as far caudally as possible, between the colon dorsally and the bladder neck ventrally, will allow removal of the cervix and cranialmost portion of the vagina, in order to obtain margins.

VAGINAL NEOPLASIA

1. Most common tumor types:
   a. Leiomyomas (the term fibroma or fibroleiomyoma may also be used) are most common.

AXIOM: Many of these benign leiomyomas are pedunculated.

DANGER

Do not mistake vaginal edema (formerly referred to as vaginal hyperplasia) or vaginal prolapse (a rare event) for a neoplasm. Vaginal and rectal palpation, vaginoscopy, and contrast vaginography can help make the distinction.
   b. Transmissible venereal tumors.
   c. Occasionally, fibrosarcomas or other tumors are seen.

2. Surgical options:
   a. Via an episiotomy, the area can be explored. Pedunculated tumors may be removed by transecting the origin.
   b. Radical excision of the vulva and vagina, combined with a perineal urethrostomy, can be performed.

AXIOM: Ovariohysterectomy is always advised if the patient is intact, to eliminate any hormonal influence on the tissues of the reproductive tract.

AXIOM: Always place a urinary catheter pre-op, to enable palpation of the urethra; this will minimize the risk of iatrogenic urethral trauma.

AXIOM: The distal 1/3 of the urethra can be resected, and a new orifice more cranially in the vagina: for details, please refer to Dimensions In Surgery #170: Episiotomy and Caudal Urethral Resection.

AXIOM: If necessary, a pubic symphysiotomy can be performed to maximize exposure.

TESTICULAR NEOPLASIA

1. Sertoli cell tumors, seminomas and interstitial cell tumors are most common in dogs. Testicular tumors are extremely rare in cats.

AXIOM: Since Sertoli cell tumors typically produce estrogen, a variety of sequelae may be seen: Anemia, gynecomastia, prostatitis
DIMENSIONS IN SURGERY

due to squamous metaplasia of the prostate gland, and endocrine alopecia.

AXIOM: Fortunately, the rate of metastases with Sertoli cell tumors is not high (5-15%). Seminomas metastasize even less frequently, and interstitial cell tumors do not metastasize.

2. Bilateral castration is always recommended.

AXIOM: The incidence of testicular neoplasmia is more than ten times higher in cryptorchid patients.

DANGER
If aplastic anemia is present, a very guarded prognosis is warranted.

PROSTATIC NEOPLASIA
Adenocarcinoma is by far the most common. Even with aggressive surgery (prostatectomy), the post-op quality of life is typically poor and the prognosis is poor.

AXIOM: Nevertheless, if prostatic neoplasia is suspected, biopsy is still indicated; occasionally transitional cell carcinoma occurs in the prostate, and these cases may be successfully palliated with chemotherapy.

URINARY BLADDER NEOPLASIA
1. Common tumor types:
   a. Transitional cell carcinoma is most common
   b. Numerous other tumors have been reported: hemangiosarcoma, fibrosarcoma, leiomyoma, leiomyosarcoma, squamous cell carcinoma, etc.

2. Surgical options:
   a. If the tumor does not involve the trigone, resection is indicated.
      AXIOM: Up to 75-80% of the bladder can be removed; the remaining tissue will gradually expand to provide a near-normal bladder volume.
      AXIOM: Resection is curative if the tumor is benign; if malignant, good palliation of clinical signs can be achieved.
   b. If the trigone is involved (as is most common), there is no ideal surgical option:
      • Urinary diversion (via ureterocolostomy, ureterohystero-stomy, or ileal pouch techniques) can be performed, but has not been generally successful in restoring an acceptable quality of life in veterinary patients.
      • A permanent cystostomy tube can be placed.

AUTHOR'S NOTE:
If you have any questions concerning this paper, additional references, surgical supplies or sources of products mentioned or used in this protocol, please FAX us at: 1-310-479-8976. We will answer your questions promptly.

A Free Continuing Education Service Available:
• To obtain a free bound book containing recent “DIMENSIONS IN SURGERY” articles, merely mail your business card to us, and on the back write: “YEARLY SUMMARIES.”
• Mail Your Card To:
  Larry Lippincott, Scott Anderson, and Phil Gill
  1736 South Sepulveda Blvd., Suite A
  Los Angeles, California 90025.
  • We will send you a binder containing the “DIMENSIONS IN SURGERY” articles from the past two years, indexed and ready for quick office reference.
  • Please be patient with the mailing of your articles.
• All first time “YEARLY SUMMARIES” requests received after January 2000 will receive the last two years’ articles in one bound book.
• 24 of the most requested articles from the first three years of publication are still available and are contained in the Practical Guide For Small Animal Surgery book which can obtained from the SCVMA office.
• The SCVMA now publishes Dimensions In Surgery articles and drawings on the Internet. Please visit us at: www.DVMpulse.com

Coming Attractions:
During the past decade, the problem of vaccine-associated sarcomas in the feline has been increasingly recognized. The chronic inflammatory response at the vaccination site, due to the vaccine antigen and/or the adjuvant, is believed to be associated with the development of these tumors.

Currently, various vaccination protocols have been promulgated, using different sites on the limbs. In the event of a vaccine associated sarcoma developing, amputation can then be curative. However, since vaccination in the dorsal interscapular area has been performed on numerous patients in previous years, sarcomas of this area are still frequently seen.

Although these tumors are aggressively invasive, with proper surgical technique, excision with clean margins can still be achieved.

Next month, we shall discuss the technique for removal of a sarcoma in the dorsal interscapular region.

See you then!