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## June 2011 PROSTATIC NEOPLASIA IN THE DOG



Prostatic neoplasia is frequently seen in dogs and can be diagnosed via ultrasonographic examination. Prostatic neoplasia has been documented but is rarely seen in cats. The most commonly diagnosed prostatic neoplasms are adenocarcinoma and undifferentiated carcinoma. Transitional cell carcinoma frequently spreads from the urinary bladder and urethra to the prostatic tissue. Metastatic squamous cell carcinoma and leiomyosarcoma have also been reported.

Prostatic neoplasia is diagnosed in both neutered and intact males; however a 2002 study documented that the neutered males were at greater risk for developing prostatic neoplasia than intact males. Typically, prostatic neoplasia is seen in older dogs (mean age of 10 yrs). Clinical signs and common complaints from owners typically include: stranguria, frequent urinations, hematuria, dyschezia, weight loss and decreased appetite. Other findings on physical examination include fever, pain on rectal examination, and pain on spinal palpation.

Ultrasonographic examination should be performed if prostatic neoplasia is suspected. Common ultrasonographic findings include an enlarged, irregular prostate that typically has a hypoechoic appearance. Multifocal, poorly coalescing hyperechoic foci are also seen in prostatic malignancies. These hyperechoic foci are due to mineralization of the prostate and cause far field shadowing. Cystic components can also be seen and are thought to indicate abscessation and/or necrosis. It can be difficult to differentiate chronic bacterial prostatitis from a prostatic neoplasia; however, regional lymphadenopathy is much more common with prostatic neoplasia than it is with chronic bacterial prostatitis. Malignancies of the prostate have often metastasized by the time of diagnosis. Frequent sites of metastases include the sublumbar lymph nodes, the pelvis, lumbar vertebrae and the lungs. If metastases to the pelvis or lumbar vertebrae have occurred, bony lysis will often be noted radiographically. Definitive diagnosis of a prostatic neoplasm is usually via a biopsy; however, fine needle aspiration of the prostate will often lead to a definitive diagnosis.

A complete and thorough work up includes a CBC, biochemical profile, urinalysis as well as three radiographic views of the thorax, an abdominal ultrasound and an ultrasound-guided prostatic biopsy or a fine needle aspirate if indicated. Unfortunately, once diagnosed prostatic carcinoma offers a poor prognosis as prostatectomy, hemotherapy and radiation therapy have proven unsuccessful in improving the quality or length of life. NSAID therapy such as Deramaxx and Piroxicam has been used for their palliative, anti-neoplastic properties with prostatic carcinomas. Deramaxx and Piroxicam inhibit cyclooxygenase production by the tumor thus inhibiting tumor growth and metastasis.

In our mobile group, we have seen many cases of prostatic carcinoma that are able to be somewhat managed with cyst/abscess ultrasound guided drainage, antibiotic infusion, systemic antibiotics, NSAID treatment +/- chemotherapy. We have noticed that the patient often presents for clinical signs of hematuria or dysuria owing to cyst or abscess formation that may be treated palliatively with repeat ultrasound guided drainage. Some may be managed in this manner if there is a considerable cystic component to the prostatic tumor. We (Lindquist et al.) are currently performing a study to this regard at SonoPath.com in cooperation with NJ Mobile Associates. The key is to image the prostate adequately, drain any cysts that are present, sample the abnormal parenchyma (FNA or Biopsy), and potentially infuse antibiotics directly into the cystic cavities if a suppurative fluid is retrieved, and then see how the patient manages clinically over time and if cysts recur. Every case is different in its response to treatment and with regards to the behavior of parenchymal and cystic growth.

Future and current therapeutic intervention include fluoroscopic guided - direct chemotherapeutic embolization through the iliac arteries as well as urethral stent placement both offered by Drs. Weiss and Berent (Animal Medical Center, Manhattan, NY) and possibly through other facilities with an interventional radiology department. Ultrasound-Guided-Laser Ablation through a perineal urethrostomy is also being attempted as a salvage procedure as part of the UGELAB project (Ridgewood Veterinary Hospital, Ridgewood, NJ Cerf/Lindquist). Traditional therapy, unfortunately results in a guarded to poor prognosis.

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