

BASIC INFORMATION

Description

Prostate cancer is the development of a malignant tumor of the prostate. It occurs in both intact (unneutered) and neutered male dogs, in contrast to other prostatic diseases, which occur almost exclusively in intact male dogs. Although castration protects against other prostatic diseases, it does not always prevent prostate cancer. Castration does not increase the risk of prostate cancer, however.

Causes

The most common type of prostate cancer is prostatic adenocarcinoma. Transitional cell carcinoma can also occur in the prostate, but it generally spreads from the bladder or urethra. Other types of cancer can occasionally develop within the prostate or spread to the prostate from distant locations. It can be difficult to distinguish between the various types of prostate cancer.

Clinical Signs

Initially, clinical signs may be absent. As the tumor enlarges, bloody urine, bloody or yellow discharge from the penis, straining to urinate, painful or frequent urinations, or straining to defecate may occur. If the tumor grows into the urethra, it can obstruct urine flow. Pain or swelling of the prostate gland or lymph nodes (glands) near the prostate may cause an abnormal gait when the dog walks. Prostate cancer can spread (metastasize) to the backbone, leading to pain or difficulty walking. Prostate cancer can also metastasize to the lungs, which can lead to coughing (with or without blood). Fever, lethargy, and depression occur in some cases.

An enlarged, irregular prostate gland that is stuck (adhered) to nearby structures may be detected by rectal palpation when your veterinarian examines the dog. Enlargement of lymph nodes in the region may also be detectable by rectal palpation.

Diagnostic Tests

Initially, blood and urine tests (urinalysis, culture) are often recommended to investigate the clinical signs. Standard urinalysis is not likely to show cancer cells. On plain x-rays, the prostate and nearby lymph nodes may be enlarged, and areas of mineralization (calcification) may be visible in the prostate. An abdominal

ultrasound often confirms the presence of a mass in the prostate. Chest x-rays may be recommended to search for metastasis.

Examination of tissue specimens is necessary to confirm the diagnosis. Cells may be collected by needle aspiration of the prostate through the skin, but there is some risk of spreading tumor cells along the needle track. Cells obtained in this fashion are examined under the microscope (cytology). Biopsy can be performed at the time of abdominal surgery.

TREATMENT AND FOLLOW-UP

Treatment Options

Surgical removal of the prostate (prostatectomy) may be attempted to treat the tumor. Prostatectomy has many complications, including urinary incontinence. A laser can be used to partially remove the prostate (called transurethral resection of the prostate, or TURP), but the equipment for this procedure is not readily available. If the cancer is obstructing the urethra, an expandable metal tube (stent) can be inserted to keep the urethra open and re-establish urine flow.

Prostatic cancer does not usually respond well to chemotherapy, but it may improve with oral piroxicam, a nonsteroidal anti-inflammatory drug. Side effects of piroxicam include stomach upset and kidney disease. External-beam radiation therapy tends to cause unacceptable side effects. Intraoperative radiation therapy (applying radiation directly to the tissue during surgery) may provide some benefit and has fewer side effects. Castration is usually recommended, because it may help lessen the clinical signs associated with the tumor.

Follow-up Care

Frequent monitoring of clinical signs and prostate size are needed. Repeated urinalyses, laboratory tests, and abdominal imaging may be recommended, as well as periodic chest x-rays.

Prognosis

Prognosis for prostate cancer is poor. Almost 40% of affected dogs have metastasis by the time the prostate cancer is diagnosed, even if metastasis is not seen on chest x-rays. When metastasis is present, average survival time is about 3 months. If metastasis is not present, some dogs may live for up to 9 months with treatment.