

POLI-CHEMOTHERAPY, HORMONAL THERAPY AND IMMUNO-THERAPY IN CANINE PATIENTS (DOGS) WITH PROSTATE CANCER

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Abstract

Incidence of malignant tumors in dogs has increased in recent years due to the abundance and the high level of aggressiveness of oncogenic environmental factors, food and contraceptives. Prostate tumors in male dog rank 3rd in frequency after malignant lymphoma and bone tumors.

Determining-factor analysis revealed that prostate malignancies in dogs as in humans correlate with age, diet and sexual activity - uncastrated and hormonal contraceptive therapies based on synthetic hormone substitutes. Maximum frequency of occurrence for this type of disease is between 10-12 years, the majority of male dogs older than 15 years suffering from it.

Poli-chemotherapy, immunotherapy and hormonal therapy for the hormone dependent tumors is based on the existence of receptors for sex hormones on the cell membranes that form the prostate's secreting tissue. Administration of varied medication at the same therapeutic moment allows prolonged remission, substitutes surgical excision of the prostate gland tumor, a very delicate procedure and prevents acquired chemo resistance. Non-specific immunotherapy works by restoring suppressed immune functions to the patient affected by the neoplastic disease.

Key words: poli-chemotherapy, hormones, immuno-therapy, prostate.

INTRODUCTION

The multimodal therapy of malignant hormone dependent tumors of the prostate gland is based on depriving the secretory epithelial cells of testicular testosterone intake through drugs.

The orchiectomy is a procedure that stops the secretion of testicular hormones by surgical castration thus being irreversible.

The chemical castration is reversible and is based on the inhibition of hypothalamic releasing factors using the commercial hormonal drug: Covinan - containing prorigeston (synthetic progestin), decreases pituitary secretion of gonadostimulating hormones FSH and LH by using synthetic progestins (medroxyprogesterone), competitive blocking testosterone receptors in the membranes of tumor cells in prostate adenocarcinoma or the or Bening prostate hypertrophy with the help of Ypozane. Hormone therapy was administered at the same time with cyclo and fazo dependent

chemotherapy and nonspecific immunostimulation using the homeopathic drug Escozul (blue scorpion venom - Cuba - administered per os)

MATERIALS AND METHODS

We included in the study 21 canine patients divided in 3 groups of different ages and breeds:

- Batch 1 of 6 dogs with prostate adenoma diagnosed by ultrasound and biochemical markers received orchiectomy, hormone inhibitors covinan.

- Batch 2 of 8 dogs in TNM stages I and II without metastases and have benefitted from polychemotherapy before castration, the alkylating agent Holoxan 200mg/sm/ day every 14 days and platinum derivatives Carboplatin 50 mg/sm/day every 21 days.

- Batch 3 of 7 dogs in TNM stages III and IV visceral metastasis. These patients underwent second line multi-agent chemotherapy anthracycline-based pivot Epidoxorubina: 15

to 25 mg/sm every 21 days alternating with alkylating agents Holoxan 200mg/sm/day every 14 days and platinum derivatives carboplatin 50 mg / sq m / day for 21 days. This batch was administered hormonal therapy with YPOZANE 0,25 – 0,5 mg/kg/day for 7 days, without castration.

RESULTS AND DISCUSSIONS

The multi-agent chemotherapy used by us within complex regimens that included alkylating agents, anthracyclines, antimetabolites associated with substitutive or inhibitive hormone therapy and general nonspecific immunostimulation can ensure a long lasting remission in prostate tumors in stages I and II and delaying metastasis. Also ensuring the biologic comfort of the animal clinically expressed by amending the symptoms of dysuria, cahexie, anemia, immunosuppression and dysphagia.

Hormonal therapy is used only in the group of dogs with benign prostate diseases inducing a rate of only about 30% of clinical remissions expressed by a modest decrease in the value of blood markers and the reduced size of the prostate measured through ultrasound.

Using an individualized therapeutic plan, the anthracycline-based pivot Epidoxorubicine, hormonal therapy with Ypozane and immunotherapy with Ecozul, without surgical orchiectomy (depending on the extent of the disease in the canine patient's body with metastatic prostate cancer) we obtained survival of 6 to 9 months depending on the clinical evaluation of the TNM stage.

From our experience following treatment our treatment protocols, results are inconsistent with only chemotherapy, dependent on the phase, on disease progression, TNM stage, doses and the moment in which the chemo-resistant phenomenon appears.

The treatment protocol would be impossible to established correctly without a validated diagnostic. The one who gives us a full view, closest to reality, from the first minutes, is imagistic diagnostic. All of the patients we have in our study underwent ultrasounds and Rx in order to see the extent of the cancer and if it had spread to the bones or the lungs.



Figure 1 Prostate ultrasound for a patient with benign hypertrophy (FMVB)

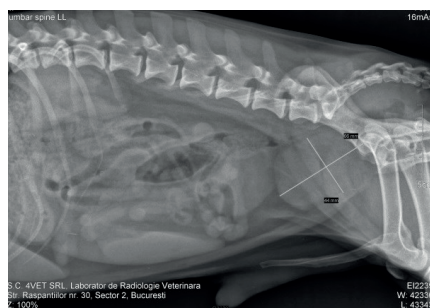


Figure 2 Rx of patient with benign hypertrophy (Dr Grosu Florin)

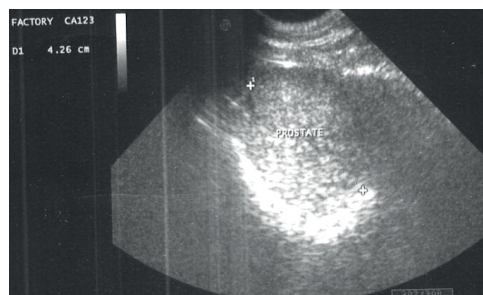


Figure 3 Ultrasound of a patient with a large paraprostatic cyst (FMVB)

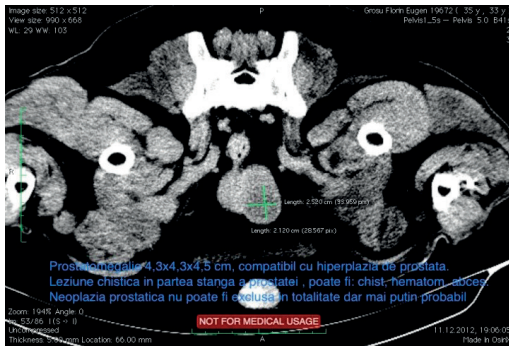


Figure 4 CT scan of patient with paraprostatic cyst (Dr Grosu Florin)

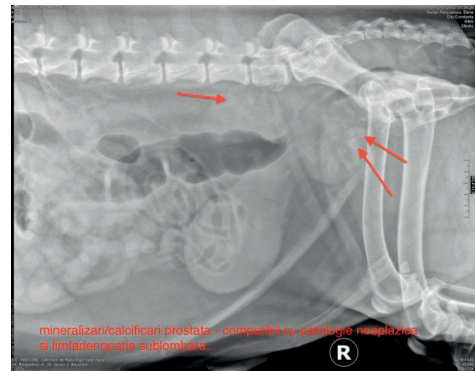


Figure 7 Rx of patient with prostate carcinoma (Dr. Grosu Florin)

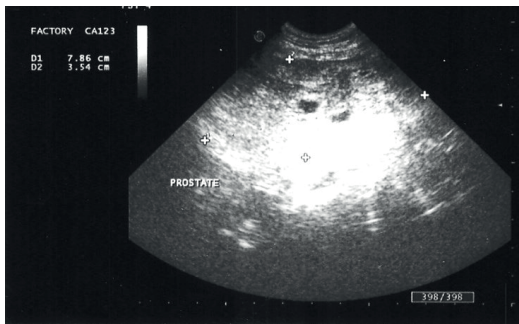


Figure 5 Prostate ultrasound for a patient with multiple intra and paraprostatic cysts (FMVB)

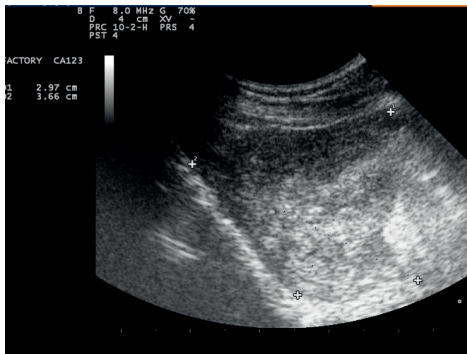


Figure 6 Prostate ultrasound for a patient with prostate carcinoma (FMVB)

CONCLUSIONS

Benign neoplastic diseases of the prostate gland respond well to hormone therapy or competitive inhibitors but the results are inconsistent depending on individual variability.

Prostate gland epithelial malignant tumors in TNM stage I and II expressed the greatest responsiveness to therapeutic combinations of chemotherapy, nonspecific hormone therapy and immunotherapy, survival duration being over one year, with delayed metastasis.

Advanced stage cancers including the metastatic prostate cancer, although receiving support through multimodal chemotherapy do not permit a long survival, but in the time range we have observed our patient, the animals expressed an enhanced comfort by amending clinical symptoms, thus proving that this can be used as a palliative treatment with the aim of improving the life and decreasing distress for our patients.

Orchiectomy at an early age, avoiding contraceptive pharmaceuticals, food low in cholesterol (precursor of steroid hormones) are useful prophylactic measures for prostate cancer in dogs.

Early diagnosis, screening for the specific serologic markers, annual check-ups and ultrasounds for animals older than 7 years help identify early changes of the prostate gland. The treatment's efficiency and the survival rate of the patient being lower the longer it takes to diagnose.

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