European Veterinary Conference
Voorjaarsdagen

Amsterdam, Netherlands
24 - 26 April, 2008

Next meeting:

Apr. 23-25, 2009 - Amsterdam, Netherlands
EUROPEAN VETERINARY CONFERENCE Voorjaarsdagen

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This topic will be presented demonstrating case studies during the congress, a summary and conclusions are listed below.

The following prostatic diseases can be managed by application of drugs and do not require a surgical treatment:
1. Benign prostatic hyperplasia (BPH)
2. Acute infectious prostatitis
3. Chronic prostatitis
4. Prostatic neoplasia

Management of BPH
The necessity to treat BPH depends on the severity of clinical signs. The majority of dogs have blood containing urethral discharge or tenesmus alvi. It is well recognized that castration will cause shrinkage of the prostate and these signs disappear. However, any other way to reduce production and secretion of testosterone and estradiol by the testes will have the same result. This is achieved by administration of depot gestagens which cause reduction of LH secretion from the pituitary gland and directly inhibit testosterone production in the Leydig cells of the testes.

The use of gestagens is well-documented and it has been demonstrated that prostatic size is significantly smaller if measured by sonography in between 14 days after administration. The clinical signs may even disappear at an earlier stage. Most available gestagens such as delmadinon acetate, medroxyprogesterone or megestrol acetate have a similar influence on prostatic tissue. However, the risk of developing insulin resistance or even manifest diabetes mellitus increases with the potency of the gestagen. Therefore a weak gestagen such as delmadinon acetate is recommended. The injection of a depot preparation will usually keep the animal free of symptoms for approximately one year. Nevertheless, some cases do not improve after gestagen administration alone, but will improve after castration.

Gestagens, same as castration, may have an impact on the behaviour and other side effects, which are not acceptable for the owner. For these cases the use of 5-alpha reductase inhibitors may be useful. These drugs, such as flutamid or finasteride, inhibit the conversion of testosterone into the active metabolite dihydrotestosterone (DHT) in the prostatic epithelial cells (Fig I). By apoptosis in the stromal and glandular compartments of the prostate a decrease in the prostatic volume as much as 43 % is achieved with daily administration of 0,5 mg/kg body weight. Fertility is not influenced by administration of the drug.

The use of estrogens is controversial, because estrogens may cause bone marrow depression in dogs and also squamous metaplasia. The author does not recommend estrogens for the treatment of prostatic disorders in dogs.

Infectious prostatitis
Although sensitivity testing is usually the basis of selecting an antibiotic for the treatment of a bacterial infection for the prostate there might be a difference. Some common antimicrobial agents do not penetrate prostatic epithelial cells and fluid and might not reach the minimum inhibitory concentration. This depends on the lipid solubility of the drug and the pH difference between plasma and prostatic tissue. The recommended drugs to treat bacterial prostatis are
1. Enrofloxacine (5-10 mg/kg/day)
2. Marbofloxacine (2,5 mg/kg/day)
3. Clindamycine (11 mg/kg/day)
4. Chloramphenicol (50 mg/kg/8 hrs.)
5. Trimethoprim/Sulfa (15 mg/kg/12 hrs.)

For the treatment of infection caused by some bacteria, such as pseudomonas species, higher doses for a longer period may be necessary. In general a high risk of recurrence is present if the patient is treated for less than 4 weeks. In cases of chronic prostatitis even longer periods of treatment have to be considered. Adjunctive measures, such as castration or hormone treatment, may be necessary in chronic cases. In experimental studies castration alone was able to eliminate the inflammation. If castration is not an option antibiotic treatment alone can be tried. It may also be useful to search for defects in the local host defence mechanisms, since most infections are not limited to the prostate but a problem of the whole lower urinary tract.

Prostatic neoplasia
Currently there is no treatment available to cure prostatic cancer or even cause long term clinical remission. Still, the use of non-steroidal anti-inflammatory drugs has shown to be a meaningful option in the management of prostatic cancer. This is due to the analgesic properties, but especially the inhibition of prostaglandine synthesis. Also in prostatic tumour tissue elevated concentration of PG-E2 could be found. Therefore drugs selectively inhibiting this pathway, such as the cyclo-oxygenase 2 inhibitors, are real anti tumour agents. It is the experience
of the author that drugs such as piroxicam, meloxicam and carprofen not only improve quality of life, but improve the clinical signs commonly observed in tumour patients. Depending on the severity of the disease the survival time might be up to a year or longer. Only in intact dogs additional castration or hormone treatment may improve the clinical situation, but survival time has not been improved by these measures.

References
- Court EA, Watson AD, Church DB, Emslie DR, Effects of delmadinon acetate on pituitary-adrenal function, glucose tolerance and growth hormone in male dogs. Aust Vet J 1998, 76(8), 555-560