

Another Tool for Detecting Benign Prostatic Hyperplasia

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In the Literature

Pinheiro D, Machado J, Viegas C, et al. Evaluation of biomarker canine-prostate specific arginine esterase (CPSE) for the diagnosis of benign prostatic hyperplasia. *BMC Vet Res.* 2017;13:76. doi:10.1186/s12917-017-0996-5

FROM THE PAGE ...

Nearly all intact male dogs eventually develop benign prostatic hyperplasia (BPH). Although most will show no clinical signs and therefore will not require treatment, some may exhibit hemospermia, hematuria, tenesmus, dysuria, prostatomegaly, poor semen quality, infertility, and serosanguinous urethral discharge not associated with urination. Diagnosis of prostatic disorders typically relies on clinical history, physical examination (including digital rectal examination), ultrasonography, and prostatic cytology. Use of canine prostate-specific arginine esterase (CPSE) as a biomarker that can reliably and specifically increase with the development of BPH in dogs has been promoted.

In this study, 60 intact dogs were divided into 2 groups (BPH [$n = 29$; median age, 9 years] and nonBPH [$n = 31$; median age, 5 years]) based on prostatic cytology obtained from fine-needle aspiration or prostatic massage. Clinical history, physical examination, ultrasonographic evaluation, and CPSE values were all recorded. Differences between CPSE concentrations in BPH and nonBPH groups were compared, and correlations between CPSE and other variables were measured. A significant difference in median CPSE levels was detected between BPH and nonBPH groups. Significant positive correlations were detected between mean CPSE levels and age or prostatic volume, as well as clinical examination findings, ultrasonographic findings, and positive cytology results. The high sensitivity of CPSE demonstrated in this study justifies the addition of this assay to the list of tools for the diagnosis of canine BPH. The specificity, however, was lower, with roughly 10% of false-positive results.

... TO YOUR PATIENTS

Key pearls to put into practice:

1 A strong correlation between elevated CPSE concentrations and all 3 traditional diagnostic procedures (ie, clinical examination, ultrasonographic evaluation, cytology) suggests that, as with most other medical investigations, definitive diagnoses are most confidently made when incorporating and noting agreement among multiple diagnostic approaches.

2 Cytology remains the gold standard for diagnosis of any prostatic disorder. Cytology can be best and—in most cases—easily obtained through manual stimulation of ejaculation, with separation of the prostatic (ie, third) fraction. In cases in which this method is not possible, prostatic massage or ultrasound-guided fine-needle aspiration may be employed.

3 CPSE is a sensitive test for canine BPH and can be used as an adjunctive diagnostic test if clinical examination and ultrasonographic evaluation are inconclusive, if diagnostic prostatic cytology cannot be obtained, and/or if quantitative pre- and posttreatment evaluations are desired.

Suggested Reading

Lévy X, Niżański W, von Heimendahl A, Mimouni P. Diagnosis of common prostatic conditions in dogs: an update. *Reprod Domest Anim.* 2014;49(Suppl 2):50-57.

Smith J. Canine prostatic disease: a review of anatomy, pathology, diagnosis, and treatment. *Theriogenology.* 2008;70(3):375-383.