

# THERAPEUTIC MANAGEMENT OF PROSTATITIS SYNCHRONOUS WITH BENIGN PROSTATIC HYPERPLASIA AND PROSTATIC CYSTS IN A PIT- BULL DOG

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A male pit bull aged 4 years was presented with complaint of inappetence and occasional vomiting along with constipation and intermittent hematuria since a week. Animal had a temperature of 104.5°F. Rectal digital examination of the prostate gland indicated symmetrical enlargement, pain on palpation, and positioning at the pelvic brim. Trans- abdominal sonographic imaging of the prostate demonstrated an echogenic capsule, moderately hyperechoic parenchymal echotexture and intraparenchymal anechoic cysts. Complete Blood Count (CBC) revealed leucocytosis and urine culture showed presence of uropathogenic *E. coli*. Clinical, hematological and sonographic findings indicated prostatitis synchronous with Benign Prostatic Hyperplasia (BPH) and prostatic cysts. Therapeutic management was carried out with Inj. Enrofloxacin @5mg/kg.b.wt for 3 days followed by oral medication daily for further 11 days. Finasteride @ 0.5 mg/kg.b.wt orally was also provided concurrently for 28 days and the dog showed good response to treatment.

**Keywords:** Benign prostatic hyperplasia (BPH), Prostate gland, Prostatitis.

Prostate is the most important accessory sex gland that completely encompasses the proximal portion of urethra in most domestic males. It is a bilobed structure located predominantly in retroperitoneal space, usually at pelvic inlet within the pelvic canal. (Korodi *et al.*, 2008). The position of prostate gland is pelvic until it becomes enlarged with advancing age or disease, at which time it pulls the bladder cranially and can be palpated abdominally (Olson 1984). Prostatic diseases more frequently occur in dogs due to continued expansion of the gland throughout dog's life leading to development of prostatic hyperplasia. Prostatic disease can be classified as benign prostatic hyperplasia, cystic benign prostatic hyperplasia, infectious prostatitis, and prostatic neoplasia (Davidson 2014). Benign Prostatic Hyperplasia (BPH), the most common canine prostatic disorder, is present either grossly or microscopically in almost 100% of sexually intact adult male dogs over the age of seven years, as well as in animals treated with androgenic hormones. It arises spontaneously in the gland as a consequence of ageing and endocrine influence, and may begin as early as 2-3 years of age, becoming cystic after 4 years of age. Dihydrotestosterone (DHT) is considered

important in promoting hyperplasia. Testosterone produced by the testes is converted to DHT by 5- $\alpha$  reductase in prostatic epithelial cells, and DHT interacts with gland receptors to regulate prostate growth (Parry, 2006). The common sequelae of BPH include prostatitis and intraprostatic cysts (Krekeler 2010).

## Case history and Observations

A four year old intact male Pit-bull dog weighing 32 Kg was presented at Teaching Veterinary Clinical Complex, Mannuthy with the complaint of blood in urine, difficulty in urination, constipation, inappetence and occasional vomiting since one week. Elevated rectal temperature (104.5°F), normal pulse, congested conjunctival mucous membrane and expiratory distress were other signs exhibited during physical examination. Rectal palpation of the gland revealed presence of prostate affection.

## Materials and Methods

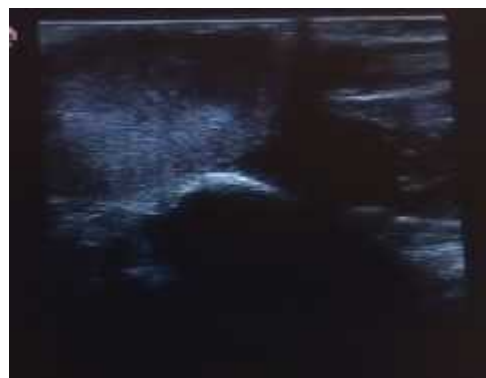
Clinical and digital rectal examination of prostate gland were suggestive of showing prostatomegaly and pain, was suggestive of prostate involvement. Fever, lethargy, anorexia and leucocytosis

were indicative of an active infection. Urine sediment analysis revealed increased numbers of red blood cells and uropathogenic *Escherichia coli*. On ultrasonography, the prostate was found to be diffusely hyperechoic with variable hypoechoic-to-anechoic intraparenchymal cystic structures. Clinical signs and laboratory findings along with ultrasonography results of examination of inner structure of the gland, confirmed the condition as a case of prostatic hyperplasia with prostatic cysts and prostatitis. Though

castration is effective, since the animal was used for breeding purpose medical management was preferred. The animal was treated with Inj DNS 350 ml i/v, Beplex forte 1ml i/v, Pantocid @ 1mg/kg body weight - 8ml i/v, Enrobest injection @5mg/kg - 1.6ml i/m for three days; Tab Gyroflox 150 mg @5mg/kg - PO daily for 11 days and Tab Finast 5 mg @ 0.5 mg/kg for 28 days. The dog showed marked improvement in clinical signs and the animal was almost normal.



**Fig 1 and 2 canine prostate with anechoic parenchymal cysts**



**Fig 3 Sonographic evaluation showed a Reduction in size of prostate gland and absence of cysts 4 weeks after treatment**

### Results and Discussion –

Benign prostatic hypertrophy (BPH) is a natural prostate disease in ageing intact male dogs. Prostatic cysts are most often observed as a result of benign prostatic hyperplasia as also reported by Dorfman and Barsanti, 1995.. Barsanti and Finco, (1986) also suggested that prostatic cyst can cause faecal tenesmus, dysuria, systemic symptoms like depression, lethargy, fever, anorexia and pain with leukocytosis in prostatitis. Clinical signs of constipation, haematuria and per  
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rectal palpation of prostate gland showing prostatomegaly and pain, was suggestive of prostate involvement in this condition. Findings in trans- abdominal sonographic imaging of the prostate demonstrated moderately hyperechoic parenchymal echotexture and intraparenchymal anechoic cysts in the present case, is in agreement with the observations made by Feeney *et al.* (1987) who opined that increase in echogenicity can be observed in almost every prostatic disorder. Inflammation or neoplasia can result

in hyperechogenic foci, while cyst or abscesses are typically detected as hypo- or anechogenic nodules. Dihydrotestosterone (DHT) converted from testosterone (T) by the prostatic enzyme, type II of 5-alpha reductase, is considered the main cause of prostate gland enlargement as also mentioned by Sirinarumitr *et al.*, 2001; Memon, 2007. Dogs with BPH are usually predisposed to developing prostatic cysts, prostatitis, prostatitis with an abscess and cystitis. Clinical signs related to the disease include constipation, blood dripping from the penis, hematospermia and hematuria or clinical signs of urinary incontinence or both as also recorded by . Sirinarumitr *et al.*, 2001; Memon, 2007; Limmanont, *et a.l.*, 2012. Finasteride, a type II 5-alpha reductase inhibitor, has been widely successful for treating dogs with BPH. At doses of 1-5 mg/kg/day, finasteride causes atrophy of both the glandular and stromal compartments of the prostate with a subsequent decrease in prostatic weight and volume. Prostatic size decreases significantly by 4 weeks of treatment, and reaches maximal atrophy, a 33-50% reduction in pre-treatment volume by 6 weeks of treatment.

### Conclusions

Dogs having infectious prostatitis show signs like fever, anorexia, and lethargy along with prostatic pain on palpation. Sexually mature, intact dogs especially those with sonographic evidence of BPH such as prostatic cysts should be duly considered as they are predisposed to other prostatic diseases as evident in this report. Marked response to therapy in the present case supports and endorses the usefulness of finasteride as an effective therapeutic agent in BPH.

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