Acute Bacterial Prostatitis in Dogs

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Prostatitis represents the inflammatory process of the prostate gland. It is the most common urologic disorder occurring in older intact male dogs (Krawiec, 1994). Prostatitis may be acute or chronic in nature and is generally associated with prostatic infection (Kraft et al., 2008) either by ascending (from the urinary tract) or descending way (on hematogenous route). Till today, treatment of prostatitis is challenging due to poor penetrability of the antimicrobials into the prostate gland and recurrent nature of the disease (Albarellos et al., 2006). This paper describes about the successful medical management of acute bacterial Prostatitis in two dogs.

Case History and Observations

Case 1: A 14 months old male German Shepherd dog was presented to the Referral Veterinary polyclinic, IVRI, with the history of anorexia, vomiting, dysuria, dyschezia, hematuria, dullness, depression and stupor to owner’s call since a week.

Case 2: A 10 year old male Pomeranian dog was brought to the Referral Veterinary polyclinic, IVRI with the history of anorexia, vomiting, pyuria, dyschezia, melena, dullness and depression since a month.

A thorough physical examination revealed severely congested mucous membranes, normal peripheral lymph nodes and normal heart and pulse rates in both cases. Abdominal palpation revealed a palpable hard mass in the caudal abdomen in Case 1, whereas no abnormality was detected in Case 2. Transrectal examination revealed enlarged prostate gland at the floor of the rectum in both cases. Ultrasonographic examination in both cases revealed distended urinary bladder and enlarged prostate gland with hypoechoic areas.

Hematological examination revealed leukocytosis in both cases. Differential leucocytic count showed neutrophilia (Neutrophils: 89% and 81%, Lymphocytes: 08% and 15%, Eosinophils: 02% and 01%, Monocytes: 01% and 03% in Case 1 and 2 respectively). Biochemical estimations revealed azotemia. Urine sediment examination revealed the presence of RBCs, leukocytes and epithelial cellular casts. Prostatic fluid was collected with digital massage of prostate gland per rectally and cytological examination with Giemsa stain revealed the presence of neutrophils. Cultural examination of prostatic fluid in both cases revealed the presence of Gram-negative bacteria and the organisms were highly sensitive to Amoxycillin (+++) and Ciprofloxacin (+++).

Treatment and Discussion

Both the cases were treated with Enrofloxacin @ 5 mg/kg bw, bid, i/m Amoxicillin-potassium clavulanate @ 15 mg/kg bw, bid, i/v Furosemide @ 2 mg/kg bw, bid, i/v Metoclopramide @ 1 mg/kg bw bid, i/m Ranitidine @ 2 mg/kg bw bid, i/m Dextrose Normal Saline and Ringer’s Lactate 500 ml each slow i/v bid for 7 days. As hematuria was present in Case 1, Hemocoagulase was used

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@ 1 CU, i/m sid for 3 days. Animals showed marked recovery after 7 days of aggressive treatment. Hematology and biochemical analysis were repeated 2nd and 3rd week after treatment.

Azotemia observed in both cases might be due to the ascending infection from prostate gland to the kidneys. Total Leukocyte count, Blood Urea Nitrogen and Creatinine were found to decrease from 2nd week of post-treatment and were within normal range after 3 weeks of post-treatment. Forecasting the recurrence of the problem, owners were advised to give Finasteride- 5 mg total dose daily po, for 30 days, along with Enrofloxacin 200 mg total dose/day for another 3 weeks from 3rd week onwards. Animals showed full improvement from the clinical signs and the size of prostate was reduced to normalcy, on per rectal examination after one month.

Based on clinical, hemato-biochemical, cultural and cytological examination of prostatic fluid diagnosis of bacterial prostatitis was made in both cases. Prostatitis may be acute or chronic in nature. Fever, pyuria, leukocytosis and neutrophilia present in both cases suggested the acute nature of the disease. Dorfman and Barsanti (1995), suggested that leukocytosis with left shift and neutrophilia were symptomatic for acute inflammation, while in chronic prostatitis the blood count may be within normal limits.

Low protein binding and high lipophilicity increases the diffusion and penetrability of fluoroquinolones into the prostate gland. Because of their high penetrability, fluoroquinolones are the antibiotic of choice in the treatment of prostatitis and many workers recommended the use of more than one antibiotic for the treatment of bacterial prostatitis.

**References**


**Table. Hemato-biochemical findings before and after treatment**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Before Treatment</th>
<th>2 weeks after treatment</th>
<th>3 weeks after treatment</th>
<th>Before treatment</th>
<th>2 weeks after treatment</th>
<th>3 weeks after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb (g %)</td>
<td>13.8</td>
<td>12.8</td>
<td>13.0</td>
<td>11.6</td>
<td>11.8</td>
<td>11.4</td>
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<tr>
<td>TEC (million/cmm)</td>
<td>5.71</td>
<td>5.20</td>
<td>5.45</td>
<td>5.08</td>
<td>5.12</td>
<td>5.10</td>
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<tr>
<td>TLC (cells/cmm)</td>
<td>48, 150</td>
<td>24, 950</td>
<td>9000</td>
<td>38, 670</td>
<td>20, 840</td>
<td>12, 340</td>
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<td>BUN (mg %)</td>
<td>118</td>
<td>69.35</td>
<td>44.20</td>
<td>78.2</td>
<td>42.8</td>
<td>14.0</td>
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<tr>
<td>Creatinine (mg %)</td>
<td>7.16</td>
<td>3.94</td>
<td>1.84</td>
<td>10.05</td>
<td>4.0</td>
<td>2.10</td>
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<td>ALT (IU/L)</td>
<td>17.45</td>
<td>33.6</td>
<td>36.0</td>
<td>13.6</td>
<td>32.0</td>
<td>32.4</td>
</tr>
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Fig. Ultrasonographic image showing enlarged prostate with several hypoechoic areas.