

Post-Mortem Splenomegaly on a Rottweiler Dog Breed

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Abstract

The spleen is a secondary lymphoid organ as are lymph nodes and mucosa-associated lymphoid tissues. It is formed by the red and white pulp; the first harbors numerous macrophages and dendritic cells that are part of the reticuloendothelial system, whereas the latter contains B and T lymphocytes and dendritic cells. It has been accepted that splenic neoplasia is the one of the most common causes of splenomegaly in dogs, 1–6 accounting for up to 66 of 100 (66%) 7 cases of splenomegaly in several retrospective studies. 7–11 Typically, durable remissions are not achieved for malignant splenic neoplasms despite aggressive medical and surgical therapeutic interventions. A 6-year old Rottweiler dog to Addis Ababa University College of Veterinary medicine, Veterinary teaching hospital (VTH) with a history of chronic and slight bloody diarrhoea since two months ago and with started medication since before one month. On the post-mortem examination we found that the spleen was swelled on both lateral and medial side which is resemble tumour like swelling. The final conclusions the case was done by a group of doctor after seeing the post-mortem findings. On the decision the dog were having problem on the spleen rather on pancreatitis or other organs. The swelling on the spleen in dogs is associated with inflammatory bowel disease or even cancer in the spleen itself.

Keywords: Diarrhoea; Spleen; Splenomegaly; Inflammatory Bowel Disease

Introduction

The spleen is a secondary lymphoid organ as are lymph nodes and mucosa-associated lymphoid tissues. It is formed by the red and white pulp; the first harbors numerous macrophages and dendritic cells that are part of the reticuloendothelial system, whereas the latter contains B and T lymphocytes and dendritic cells. Both take part in the immune response and react to pathologic insults, ranging from infectious to neoplastic diseases [1].

Splenic disorders are mostly encountered in the dog as nodular distortion or diffuse enlargement (splenomegaly). Pathogenically, these conditions may be seen as primary diseases or in conjunction with a wide variety of clinical illnesses, and are usually treated by splenectomy [2].

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The most commonly documented splenic neoplasm in the dog is haemangiosarcoma which can necessitate a careful microscopic differentiation from two other types of frequently detected splenic lesions: haematoma and haemangioma. Among nonvascular neoplasms, several other primary mesenchymal tumours have been described (fibrosarcoma, leiomyosarcoma, osteosarcoma, etc.) [2].

Case History/Presentation

CC- Yared kebede brings a 6-year old Rottweiler dog to Addis Ababa University College of Veterinary medicine, Veterinary teaching hospital (VTH) with a history of chronic and slight bloody diarrhoea since two months ago and with started medication since before one month. The diarrhoea is absent for some time and came back again once the treatment quits. The dog was treated with antibiotics and vitamin B-complex before one month at private clinic in Addis Ababa for suspect of bacterial infection on intestine. During inspection and physical examination the dog's body condition was poor and dehydrated. Most of the time the dog eats raw meat from slaughterhouse without cooking (Figure 1).



Figure 1: Dog on the first day at clinic

Clinical signs/symptom:

- Chronic and slight bloody diarrhea,
- Dehydration,
- Loose of hair on the lower caudal area and decrease feed intake

Vitals during Presentation

- **Temperature:** 38.5°C,
- **Respiratory rate:** 27 rpm,
- **Heart rate:** 60-70rpm

Visible mucus membrane

Normal

Tentative Diagnosis:

Chronic inflammatory bowel disease

Differential Diagnosis:

- Chronic inflammatory bowel disease,
- Pancreatitis and
- Tumour on Stomach

Treatment and follow up:

- Metronidazole 500mg/PO/TID/for 3 days
- Meloxicam 15mg/PO/for 5days/SID
- DNS IV infusion on the 3rd day
- Sodium Chloride + 5% Dextrose on 4th and 5th day

Prognosis:

Poor

Vitals during on the course of Medication

- Temperature: 33.7°C,
- Respiratory rate: 56rpm,
- Heart rate: Unable to detect

Case Report

Death after the 6-days of follow-up on clinic

Post-Mortem Findings:

Splenomegaly/Small circle tumor like swellings on the spleen both on lateral and medial sides.

Photos during Post-Mortem:





Discussion and Conclusion

Even-though during the first visit of dog in the clinic the problem that was manifested chronic diarrhea and dehydration are seen it was not expected that the dog will die. The doctors and DVM extern in the clinic were strictly following the case up to the final time. On the initial course of differential diagnosis most of the diseases that are listed on the differential diagnosis are pancreatitis, inflammatory bowel disease and tumor on stomach. There is no expectation that the disease may related with spleen. On the first two day after the start of the treatment with metronidazole of 500mg through oral route the diarrhea starts to dry for a little bit. After two day with the start of meloxicam 15mg oral rout the dog starts to show sign of increased urination and decreased feed intake; after that we immediately withdraw the dog to take the drug and start to follow by giving IV fluids like DNS, Dextrose 5% and a combination of Sodium Chloride and Dextrose 5% on the final days of the follow-up. On the middle of the days the temperature of the dog starts to decline rapidly and the heart rate was unable to detect through auscultation. On the final day the respiratory rates were increase and there was a deep breathing overnight. Once we confirm the death of the dog, we decided to do a post-mortem examination immediately as much as possible. On the post-mortem examination we found that the spleen was swelled on both lateral and medial side which is resemble tumor like swelling. The final conclusions the case was done by a group of doctor after seeing the post-mortem findings. On the decision the dog were having problem on the spleen rather on pancreatitis or other organs. The swelling on the spleen in dogs is associated with inflammatory bowel disease or even cancer in the spleen itself. As described earlier our hospital is not equipped with ultrasonography and chemicals with histological examination even though performing such examinations are mandatory. What we did is just to follow up for recommended treatments.

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