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Comprehensive Clinical Management of Hind Limb Dysfunction in a Canine: A Detailed Case Report

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Abstract

This case report details the clinical presentation, diagnostic workup, and therapeutic interventions employed in managing a Labrador Retriever presenting with hind limb pain and subsequent immobility. Over the course of treatment, a combination of pharmacological treatments and diagnostic evaluations were applied, resulting in significant clinical improvement. This report underscores the importance of a multidisciplinary approach to managing orthopaedic and systemic conditions in canines.

Introduction

Canine patients frequently present with orthopaedic complaints, which, if left untreated, can severely impair mobility and quality of life. This case report focuses on a middle-aged Labrador Retriever, weighing 46 kg, who presented with progressive hind limb pain, immobility, and generalized weakness, despite a maintained appetite and routine vaccination schedule. Ultrasonographic findings depicting liver enlargement. CBC graphical data displaying the fluctuations in haematological parameters. The primary objective is to provide an in-depth analysis of the diagnostic and therapeutic protocols employed, which resulted in successful management of the

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patient's condition.

Case Presentation

A 6-year-old male Labrador Retriever weighing 46 kg presented to the Teaching Veterinary Clinical Complex at the College of Veterinary Science and Animal Husbandry, Anjora (Durg) with a history of progressive hind limb weakness and pain. The dog had gradually become less active and was unable to rise from a lying position. Despite these symptoms, the dog's appetite remained normal, and its vaccination and deworming schedules were up to date. Upon clinical examination, pain was elicited on palpation of the lower half of the body particularly in left hind limb, and the mucous membranes were noted to be slightly pale. The dog also exhibited an elevated body temperature of 103.2°F. These findings indicated a need for further diagnostic investigations to determine the underlying cause of the hind limb dysfunction and pain, as well as to evaluate the overall health status of the dog.

Clinical Findings and Diagnostic Workup

In the case of hind limb dysfunction, accurate diagnostics are vital for understanding the root causes. Initial clinical examination, including palpation and assessment of mucous membranes, is important to detect pain and other systemic signs, as seen in the discussed case where the dog presented with pale mucous membranes and elevated temperature. Further diagnostic tests, such as complete blood counts (CBCs) and liver function tests, provide insights into potential underlying causes, including anemia and liver dysfunction (Coles, 1986). Ultrasonography, which was used in this case to evaluate liver enlargement, offers a non-invasive means of assessing internal organs and identifying conditions that may contribute to systemic issues (Nyland & Mattoon, 2002).

Table 1 Diagnostic findings

Day	Test performed	Findings
Day 1	Clinical examination	Hind limb pain, inability to stand
Day 2	Blood smear	Negative for haemoprotozoan parasites
Day 3	Ultrasound (USG)	Enlarged liver detected
Day 14	SGPT, Albumin	SGPT: 26.71U/L, Albumin: 2.24g/dl



Table 2 Initial CBC Findings (Day 2)

Parameter	Result
Hematocrit (HCT)	31.2%
Hemoglobin (HGB)	9.8gm/dl
White blood cells (WBC)	$38.8 \times 10^9/L$
Granulocytes (Grans)	$30.3 \times 10^9/L$
Percentage granulocytes (% Grans)	77%
Lymphocytes/ Monocytes (L/M)	$8.8 \times 10^9/L$
Platelets (PLT)	$161 \times 10^9/L$

Table 3 CBC findings (Day 14)

Parameter	Result
Hematocrit (HCT)	34.9%
Hemoglobin (HGB)	11.8gm/dl
White blood cells (WBC)	$42.3 \times 10^9/L$
Granulocytes (Grans)	$35.7 \times 10^9/L$
Percentage granulocytes (% Grans)	84%
Lymphocytes/ Monocytes (L/M)	$8.6 \times 10^9/L$
Platelets (PLT)	$214 \times 10^9/L$

Therapeutic Management

The initial therapeutic approach for managing the Labrador Retriever's hind limb dysfunction involved the use of various medications over the course of treatment. On Day 1, Neo-pred (Methyl prednisolone acetate @1.1mg/kg body weight) was administered intramuscularly as an anti-inflammatory corticosteroid to reduce pain and inflammation, alongside 3ml Tribivet-M (Methylcobalamin, pyridoxine & nicotinamide), a multivitamin injection to address any potential nutritional deficiencies (Plumb, 2018). Aciloc (Ranitidine 150mg PO, OD) was prescribed as a gastric acid suppressant to prevent gastrointestinal irritation, and Neurobion forte (PO, OD) was included for nerve support. On day 2, Pantoprazole (40mg, I/V) was added for further gastric protection (Plumb, 2018), while Celecoxib (100mg PO, OD) was introduced as an NSAID to manage pain and inflammation. SFT Syrup (2 tsp PO, BID) was provided to aid digestion, and DNS (300ml, I/V) was administered for fluid therapy. From days 3 to 6, Clindamycin 300mg, was introduced intravenously as an antibiotic to prevent



bacterial infections, and 5ml of Hepamerz (L-Ornithine-L-Aspartate Infusion) was used slow intravenous to support liver function.

Table 4 Final CBC findings (day 20)

Parameter	Result
Hematocrit (HCT)	30.9%
Hemoglobin (HGB)	11.3gm/dl
White blood cells (WBC)	$29.5 \times 10^9/L$
Granulocytes (Grans)	$25.6 \times 10^9/L$
Percentage granulocytes (% Grans)	87%
Lymphocytes/ Monocytes (L/M)	$3.9 \times 10^9/L$
Platelets (PLT)	$187 \times 10^9/L$

Doxycycline (100mg, PO, OD) was later added to provide further antibiotic coverage, and Duphalac (Lactulose, 10ml PO, BID) was prescribed to relieve constipation. On day 7 to 13, the patient continued to receive intravenous fluids, D5 and RL, along with Trineurosol-H (Hydroxocobalamin, 3ml I/V) for additional multivitamin support. Orofer-S (Iron sucrose 2.5ml, I/V) was added to address anemia detected in the CBC findings. By day 14, C4All (Cefquinome sulphate 100mg, I/M) was introduced. On day 20, Enrocin (Enrofloxacin 2ml, I/M) was administered for continued antibiotic coverage.

Progress and Clinical Outcome

Over the course of treatment, regular diagnostic tests played a crucial role in adjusting the treatment plan. The patient's clinical condition and diagnostic results improved in tandem, with WBC counts gradually returning to normal, liver function stabilizing, and anemia resolving. The combination of anti-inflammatory, antibiotic, and supportive care led to the patient regaining full mobility and normal hematological values by the end of treatment.



Discussion



Figure 1 After treatment



Figure 2 During treatment

This case highlights the value of continuous diagnostic testing in managing complex orthopaedic and systemic conditions in canines (Boothe, 2015). The regular CBCs, liver function tests, and ultrasonography provided critical information for tailoring the treatment plan. A multidisciplinary approach involving antibiotics, anti-inflammatories, and supportive therapy resulted in the resolution of clinical signs and full recovery (Nelson & Couto, 2020).

Conclusion

The successful management of this case demonstrates the importance of a comprehensive, diagnostic-driven treatment strategy in resolving canine orthopaedic and systemic issues. Early intervention, combined with consistent follow-up and therapeutic adjustments, allowed for a full recovery and restored mobility. This case emphasizes the need for a tailored, multifaceted approach in veterinary clinical practice.

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