Short Communication

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Successful Use of Oral Spiramycin and Racecadotril in Therapeutic Management of Severe Gastroenteritis of A Young Golden Retriever – A Case Report

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Abstract

Gastroenteritis along with hemorrhagic diarrhoea constitutes a major share of registered cases in canine medicine. The present study documents a case of a 1 yr old female golden retriever presented at Block Animal Health Centre, Salanpur, Paschim Barddhaman, West Bengal, India with history of profuse bloody diarrhea, occasional vomition, dullness and anorexia. The dog was previously treated symptomatically with IV fluids, parenteral antibiotics (ceftriaxone + tazobactum and metronidazole), antiemetic and antacid with no response and rapid deterioration. Considering the possible involvement of multi drug resistant gut pathogens, oral spiramycin and racecadotril was included in the treatment protocol along with fluids and other supportive medicines. The animal showed prompt response and recovered completely on day 6.

Keywords: Gastroenteritis, Golden Retriever, Spiramycin, Racecadotril

Introduction:

Hemorrhagic gastroenteritis (HGE) or Acute Hemorrhagic diarrhea syndrome (AHDS) is one of the major challenging cases encountered by small animal practitioners (Patel et al., 2004; Priya et al., 2017; Dow, 1996). It is an acute disease of young dogs that is usually characterized by sudden onset of vomition, diarrhoea and hamatochezia (Raheja et al., 2018) resulting in intestinal barrier dysfunction and dysbiosis (Skotnitzki et al., 2022). The etiology is often multifactorial and the affected animals succumb to death due to blood, fluid and electrolyte losses, dehydration and toxaemia (Ramprabhu et al., 2002).

The exact pathogenesis of acute onset HGE is unknown (El-Mashad, 2016). Canine parvovirus, canine coronavirus, members of *Enterobacteriaceae* family and *Clostridium* spp. together can contribute to the pathology (Ramprabhu et al., 2002) and rapid onset of clinical signs (El-Mashad, 2016).

Because of potential bacterial involvement and to combat the risk of sepsis, antibiotics are often included in treatment line (El-Mashad, 2016). However conventionally used antibiotics are often being found ineffective due to emergence of multi-drug resistant (MDR) strains of *Enterobacteriaceae*, *Enterococcus* and *Staphylococcus* (Schiro et al., 2022). Study also confirmed presence of 17 MDR bacterial strains isolated from 23 dogs with high resistance to 3rd and 4th generation cephalosporins and metronidazole (Schiro et al., 2022).

Spiramycin is a primarily bacteriostatic antibiotic of macrolide group, originally discovered as product of *Streptomyces ambofaciens*. It has specific antibacterial and antiparasitic activity against Gram positive and Gram-negative cocci and also Mycoplasma, *Chlamydiae* and *Cryptosporidium* (Kacirova et al., 2022). This drug has been reported to be used effectively in canine medicine for treating periodontal diseases (National Centre for Biotechnology Information, 2025) and canine leishmaniosis in combination with metronidazole (Pennisi et al., 2005).

Racecadotril is an enkephalinase inhibitor, abundantly used in pediatric medicine (Muheet et al., 2018). After being absorbed following oral administration, the drug is converted to its parent compound thiorphan which acts to increase the half-life of enterocyte methionine-enkephalin (Muheet et al., 2018) and thus prevents the degradation of endogenous opoiods responsible for hypersecretion of water and electrolyte (Christophe, 2013) in intestinal lumen. This decreases the stool output without hampering the intestinal transit time (Singh et al., 2016).

The present study documents successful recovery of a young female golden retriever ageing 1 year and 2 months using oral Spiramycin and Racecadotril along with other supportives.

History and Observation

The case was presented with history of profuse foul smelling watery diarrhea, anorexia, dullness, sunken eyeball and weight loss at BAHC, Salanpur, Paschim Barddhaman (Fig. 1 and 2). Combined vaccination with DHPPiL was done 1 year back. It was already treated with Inf. Ringer's lactate 150 ml iv q12h, Inf. DNS 200 ml iv q12h, Inj. Pantoprazole 40 mg iv q24h, Inj. Ceftriaxone + Tazobactum (562.5 mg) 1.5 vials IV q12h, Inj. Metronidazole 100 ml IV q12hrs, Inj. Ondansetron 3.5 ml iv q12h with no response and was deteriorating rapidly.

Haematological and Biochemical Investigation

Results are tabulated below (Table 1).

Table 1: Result of Hematological and Biochemical Analysis done on Day 1

Parameter	Unit	Value	Remarks
Haemoglobin	Gm/dL	13.1	Normal
RBC	millions/microlitre	4.5	Low
TLC	no./ cu. mm.	6700	Low
Neutrophil	%	59	Low
Lymphocyte	%	34	High
Monocyte	%	4	Normal
Eosinophil	%	3	Normal
Basophil	%	0	Normal
PCV	%	41	Normal
MCV	femtolitre	91.1	High
MCH	picogram	29.1	High
MCHC	gm/dL	31.9	Normal
Platelet Count	Lakhs	1.96	Normal
Glucose	mg/dL	78	Normal
BUN	mg/dL	14.9	Normal
Creatinine	mg/dL	0.85	Normal
Total Bilirubin	mg/dL	0.32	Normal
Direct Bilirubin	mg/dL	0.15	High
Indirect Bilirubin	mg/dL	0.17	Normal
SGOT	IU/L	68	Normal
SGPT	IU/L	61	Normal
Total Protein	gm/dL	6.50	Normal
Albumin	gm/dL	2.70	Normal
Globulin	gm/dL	3.80	High
Alkaline Phosphatase	IU/L	294	High

The patient was treated with a combination of therapeutic agents as from day 1 to day 5 (Table 2). The animal showed marked clinical improvement from as early as 2nd day of therapy. Both fecal consistency (Figure 2A-2H) and activity of the animal significantly improved clinically. Animal resumed eating from 3rd day, after which parenteral use of ondansetron was discontinued and commercially available canned gastrointestinal food (Vet Life Gastrointestinal®) was suggested to offer. It recovered fully on day 6 when it fully regained its normal fecal consistency (Figure 2H), activity and appetite.

Table 2: Summary of treatment protocol followed

Agent	Dose	Frequency	Route	Remarks
Normal Saline	350 ml	q 12hr × 5 days	IV	Isotonic solution to combat fluid loss
Ampillicillin 500mg + Cloxacillin 500mg (Inj. Amilox C DS®)	1.5 vial	q 12hr 5 days	IV	Counteract secondary infection particularly caused by Gram positive pathogens
Gentamicin 80mg/2ml (Inj. Genticyn®)	2 ml	q 12hr × 5 days	IM	Counteract secondary infection particularly caused by Gram negative pathogens
Ranitidine 25mg/ml (Inj. Rantac®)	2 ml	q 12hr × 5 days	IM	Antacid
Ondansteron 2mg/ml (Inj. Zofer®)	3.5 ml	q 12hr× 5 days	IV	Antiemetic
Spiramycin 3 million IU (Tab Rovamycin Forte®)	1 Tab	q 24hr × 5 days	Oral	Used in this case to combat possible multi drug resistant gut pathogens
Racecadotril 30 mg Tab (Tab Zedott DT 30®)	1 Tab	q 8hr × 5 days	Oral	Gastric antisecretory agent
Oral Probiotic (Cap Synfosium®)	1 cap	q 24hr × 5 days	Oral	To improve gut health, counteract harmful pathogen and dysbiosis and to improve gastrointestinal inflammation

Conclusion:

The case demonstrates prompt clinical recovery of a severe case of an acute hemorrhagic diarrhoea syndrome adding oral spiramycin and racecadotril where traditional line of treatment using fluids and supportive antibiotics were not successful. This is the first documented case of treating canine haemorrhagic gastroenteritis (HGE) with a combination of spiramycin and racecadotril administered orally for 5 days and this line of treatment may be considered in dealing with difficult cases of this nature.

Conflict of interest:

The authors have no conflict of interest.

Authors' contribution:

Debajit Roy - concept, analysis, original draft, field data collection and review, Sumana Gharami - analysis and field data collection, Kingson Maji – technical support, Shubhamitra Chaudhuri - concept, analysis and final draft preparation.

Ethical approval:

Not applicable.

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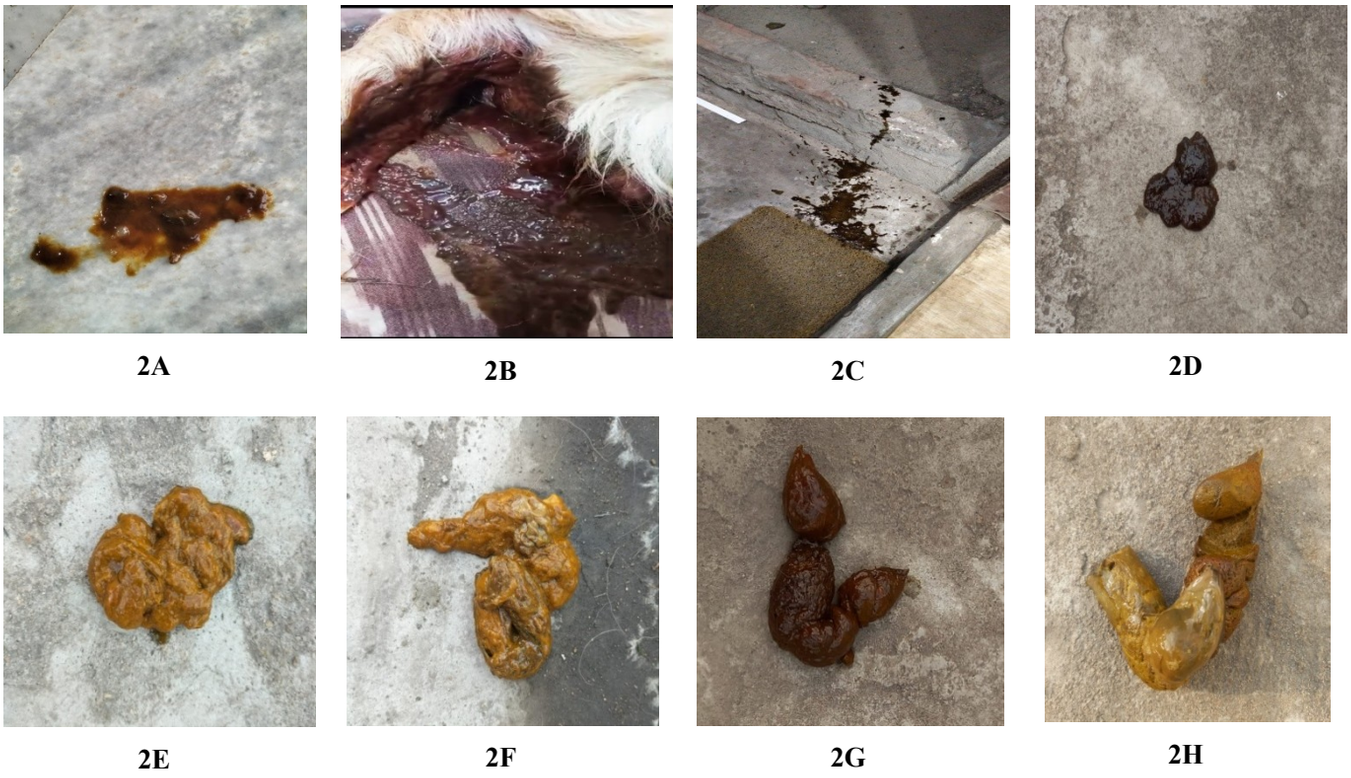
Figure 1: The animal on Day 1 (Visibly weak and lethargic)



2A **2B** **2C** **2D**

2E **2F** **2G** **2H**

Figure 2:
2A: Fecal consistency day 1
2B: Fecal consistency day 2 (morning)
2C: Fecal consistency day 2 (afternoon)
2D: Fecal consistency day 3
2E: Fecal consistency day 4
2F: Fecal consistency day 5
2G: Fecal consistency day 6
2H: Fecal consistency day 7

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