JOURNAL OF APPLIED ANIMAL BIOSCIENCES (JAAB)

Open Access • Peer Reviewed • Biannual

https://jaab.in

Volume 1 • Issue 1 • July 2026 pp 17-20 | DOI: https://doi.org/10.5281/zenodo.21904685 eISSN: in process

Therapeutic Management of Acute Gastroenteritis Complicated with Acute Pancreatitis in a Shih Tzu Dog

Sakshi[1]*, Remya M[1] , Manjali Rana[1], Shivansh Mehra[2], Varun Kumar Sarkar[1] and U. K. De[1]

[1]Division of Medicine, [2]Division of Surgery, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, India

*Corresponding author: sakshikurim@gmail.com | ORCID: 0000-0002-2111-1098

Received	Revised	Accepted	Published
10/08/2026	12/08/2026	12/08/2026	12 /08/2026

Abstract

A one-year-old male Shih Tzu was referred to RVP-TVCC (ICAR-IVRI) with history of anorexia, severe vomiting and diarrhea for last 3 days with history of excessive raw chicken feeding. On physical examination, the dog was recumbent and hypothermic. Blood examination revealed neutrophilia, lymphopenia, elevated levels of liver enzymes, serum amylase, total protein concentration and hyperglycemia. Ultrasonography revealed enlargement of right pancreatic lobe with remarkably heterogenous parenchyma, irregular hyperechoic and hypoechoic regions with marked increase of vascularity. The animal was successfully treated with fluid therapy, antibiotic, NSAID, antiemetic, tablet Pancreatin in combination with dimethicone for 5 days. The animal was completely fine after 7 days.

Keywords

Acute gastroenteritis acute pancreatitis, dog, hyperglycemia, serum amylase,

Introduction

The pancreas is a thin, flat organ situated in the abdomen caudal to the stomach. It is made up of three parts: a right limb or lobe that is located just medial to the proximal duodenum, a body situated between these two limbs, and a left limb or lobe that is situated behind the stomach's greater curvature and next to the cranial aspect of the transverse colon. Pancreatitis can be defined as inflammation of pancreas. Pancreatitis develops when there is excessive activation of trypsin and other pancreatic proteases within the pancreas, which overwhelms local safeguards within the acinar cell (Mansfield, 2012). It can be acute as well as chronic but in clinical practice clinician frequently come across acute pancreatitis (Van Den Bossche, 2010). Necrosis and edema are common symptoms of acute pancreatitis, which is characterized by sterile inflammation with an acute onset that is fully reversible and does not permanently alter the pancreatic architecture. Prevalence of this condition varies according to breed and age of dogs. Hyperglycaemia develops due to glucagon release in excess of insulin from an inflamed pancreas, in combination with stress-related increases of cortisol and catecholamines (Watson et al., 2004). In Ultrasound imaging changes in pancreatic echogenicity and development of focal lesions due to pancreatic edema, necrosis, or hemorrhage secondary to pancreatitis can be detected (Mix et al.,2006)

Case description

Case history

A one-year-old male Shih Tzu was referred to RVP ICAR-IVRI Bareilly with a history of anorexia, severe vomiting and diarrhea for last 3 days. Dog was previously treated by local veterinarian for gastroenteritis but no improvement was noticed. On further investigation owner revealed history of excessive raw chicken feeding before 3 days and owner was also suspecting for gastrointestinal foreign body. On physical examination animal was dull, hypothermic and severely dehydrated (12 %). Animal was having tachycardia. On abdominal palpation animal was showing pain symptoms. Moreover, animal was properly dewormed and vaccinated.

Laboratory findings

For further diagnosis, blood and serum samples were send for complete blood count, liver function test and serum amylase analysis. Animal was also sent for abdominal ultrasound after proper clipping of hairs. On blood examination we found there was hemoconcentration which might be due to severe dehydration caused by vomiting as well as diarrhea. total leucocyte count was also high along with neutrophilia. there was increased blood glucose level. Serum amylase concentration was four times of normal value and liver enzymes were also elevated (Table 1).

Ultrasound reports of abdomen revealed Enlarged right pancreatic lobe (3 cm in diameter) with heterogenous parenchyma, irregular hyperechoic and hypoechoic regions, with markedly increased vascularity along with this the duodenum has thick wall (5.8mm) with rough, undulating serosa margins and lack of layering in wall (Fig.1 and Fig.2). All these results were suggestive of acute pancreatitis along with gastroenteritis.

Table 1: Blood-related parameters of dog.

Parameters	Day of presentation (before therapy)	7 days post-treatment	References range
Hb (g/dl)	**18.2**	14.3	12-18
PCV (%)	55.2	43	37-55
TEC ($\times 10^6$ / µl)	7.5	6.2	5.5-8.5
TLC ($\times 10^3$ / µl)	**18.1**	14.6	6-17
Neutrophils (%)	**82**	79	60-77
Lymphocytes (%)	14	13	12-30
Monocytes (%)	07	06	3-10
Eosinophil (%)	01	00	3-10
Basophil (%)	00	00	0-1
Platelets ($\times 10^6$ / µl)	112	210	150-450
Total protein (g/dl)	**9.17**	**7.9**	5.4-7.5
Albumin (g/dl)	3..2	3.1	2.3-3.1
Globulin (g/dl)	**5.9**	2.9	2.3-3.1
SGPT(IU/L)	96	92	10-109
SGOT(IU/L)	55.7	48	13-15
Glucose (mg/dl)	**165**	109	76-119
Serum Amylase (IU/L)	**4830**	725	226-1063

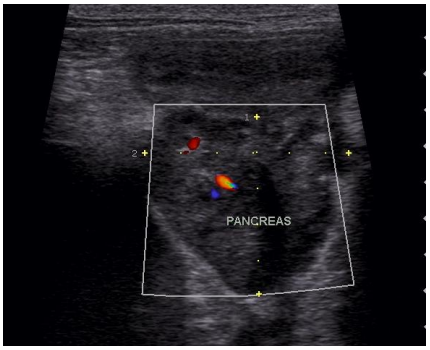

Fig.1 Enlarged right pancreatic lobe (3 cm in diameter) with heterogenous parenchyma, irregular hyperechoic and hypoechoic regions, with markedly increased vascularity

Sakshi et al. 2026, Volume 1 • Issue 1 • July 2026 pp 17-20. Journal of Applied Animal Biosciences | DOI: https://doi.org/10.5281/zenodo.21904685

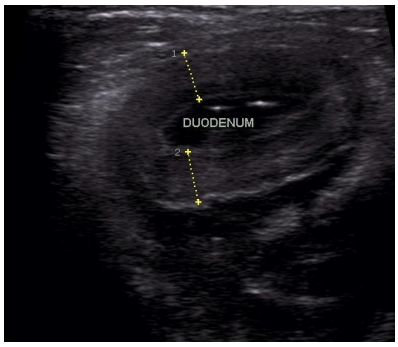

Fig.2 The duodenum has thick wall(5.8mm) with rough, undulating serosal margins and lack of layering in wall

Treatment

After confirmation of the case immediately treatment was started. Fluid therapy with normal saline and ringer's lactate was started as per hydration of the animal. For analgesia fentanyl (3 mcg/ kg/H IV Constant rate infusion) was given to relieve pain. To control vomiting, ondansetron was given @0.2 mg/kg body weight. Antibiotics amoxicillin & sulbactam @12.5 mg/kg body weight was given to check secondary bacterial growth in GI tract. Tablet Pancreatin + Dimithicone (1 tab/50 kg of dog orally) was given. Above treatment was continued twice a day for 5 days. Owner was advised to withdraw feed for few days and start slowly giving food to the animal. Along with this owner was also advised to avoid giving high fat diet to the animal. Animal showed uneventful recovery after 5 days of the treatment.

Discussion

As per the history of this pancreatitis could be due to excessive raw chicken feeding which caused gastroenteritis followed by acute pancreatitis. According to Mushtaq et al., 2017 sudden dietary changes like high fat diet can precipitate this condition. Dog with acute pancreatitis will show sudden abdomen pain, anorexia, depression, vomiting and diarrhea which can also be life threatening if not treated promptly (Hess et al., 1998). Acute pancreatitis symptoms can be confused with other diseases and can results in inaccurate diagnosis and subsequent treatment which causes high mortality. For proper treatment of the condition proper history, physical and laboratory examination is very crucial. To achieve good prognosis, treatment should be started soon with fluid therapy to restore hydration status of the animal, antibiotics to check secondary bacterial infection during gastroenteritis, antiemetics to control vomiting and other drugs which include pancreatin which will help to digest the food and activated dimethicone, an antifoaming agent which disintegrates gas bubbles and allows easy passage of gases. Oral feeding should be avoided at least 48 hours. Along with medicinal treatment, owners are advised to give low fat diet to the animal after recovery to avoid relapse of the disease.

Conclusion

Acute gastroenteritis complicated with pancreatitis requires early diagnosis and prompt supportive treatment to prevent serious complications and improve prognosis. Proper history, clinical and laboratory examination, along with fluid therapy and symptomatic management, are essential for successful recovery. After recovery, a highly digestible, low-fat diet and avoidance of sudden dietary changes are recommended to minimize the risk of recurrence.

Funding Statement

This research received no external funding.

Conflict of Interest

The authors declare no conflict of interest.

Ethical Approval

Formal ethical approval was not required for this study.

Data Availability Statement

No new data generated in this study.

References

Hess, R. S., Saunders, H. M., Van Winkle, T. J., & others. (1998). Clinical, clinicopathologic, radiographic, and ultrasonographic abnormalities in dogs with fatal acute pancreatitis: 70 cases (1986–1995). *Journal of the American Veterinary Medical Association, 213*, 665–670.

Mansfield, C. (2012). Pathophysiology of acute pancreatitis: Potential application from experimental models and human medicine to dogs. *Journal of Veterinary Internal Medicine, 26*(4), 875–887

Mix, K., & Jones, C. (2006). Diagnosing acute pancreatitis in dogs. *Compendium on Continuing Education for the Practicing Veterinarian, 28*, 226–234.

Mushtaq, S., Farooq, I., Farooq, I., Rashid, S. M., Rehman, M. U., Ali, R., Shabir, M., Mir, M. U. R., &

Ahmad, S. B. (2017). Acute pancreatitis in dogs: A review. *The Pharma Innovation Journal, 6*, 509–516.

Van Den Bossche, I., Paepe, D. S., & Daminet, S. (2010). Acute pancreatitis in dogs and cats: Pathogenesis, clinical signs and clinicopathologic findings. *[Journal title not provided], 79*, 13–22.

Watson, P. (2004). Pancreatitis in the dog: Dealing with a spectrum of disease. *In Practice, 26*, 64–77.