

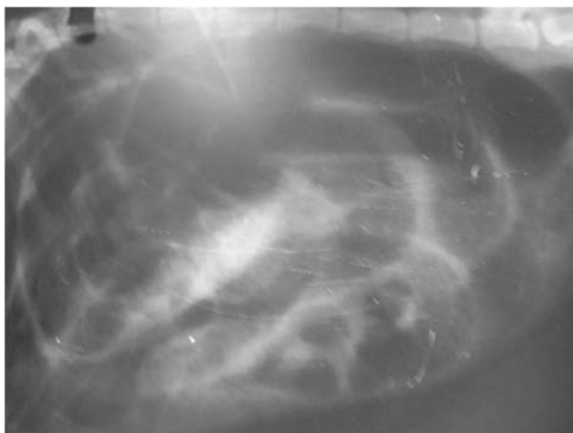


MESENTERIC TORSION IN A DOG

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HISTORY AND CLINICAL SIGNS

A one and half year old cachexic German Shepherd crossbred, previously diagnosed with exocrine pancreatic deficiency and currently on enzyme replacement therapy was presented with an acute onset of abdominal distension after food intake in the morning and respiratory difficulty. The dog was recumbent and on physical examination, pale and dry mucous membranes, sunken eye balls with prolonged capillary refill time and a temperature of 98.4°F was observed. Heart rate of 150 beats/min, a weak pulse, and a tense painful abdomen was evident upon palpation. A plain radiograph (Figure 1.) revealed extensive gas filled and dilated intestinal loops and a subsequent abdominal ultrasound confirmed the same. Due to the immediate nature of distress and emergency laparotomy was indicated.



body or any devitalisation were seen along the entire length of the of the intestines. Multiple nick incisions and pricks with 18G needles were made along the entire length of the intestines to facilitate removal of air and contents and correction of the mesenteric twisting. Despite removal of air and contents, no motility was visualized in any segment of the intestines. Small segments of the intestines were collected for full thickness biopsies. Nick incisions were closed with simple interrupted sutures.



SURGICAL INTERVENTION

A midventral approach through the linea alba was used for the laparotomy which revealed mesenteric twisting with excessive uniform distension of the intestine with absence of peristalsis (Figure 2). The contents were a mixture of foul smelling gas and fluid. No evidence of any foreign

Despite repeated metoclopramide (Perinorm®) bolus intravenous infusions and fluid therapy no peristalsis could be observed in any segment of the intestine. An atrophic shrunken pancreas was observed during the course of the surgical exploration and no attempts to biopsy the pancreas was made. The abdomen was closed using standard procedures and fluid therapy was instituted to overcome shock and hypertonic fluid support was initiated to facilitate tissue reperfusion.

Subsequently the animal developed complications and succumbed the same day. The biopsy of the intestine on histopathology revealed extensive



ulcerations devoid of any inflammatory or neoplastic cells.

DISCUSSION

Intestinal hypomotility are not well characterized in dogs to be associated with primary causes. Secondary causes include prior surgery, peritonitis, pancreatitis or parvoviral infections. However as in malabsorptive disorders, undigested and osmotically active particles in the intestinal lumen are known to decrease transit time however are responsive to prokinetics like metoclopramide (Allenspach and Gaschen, 2008). However the latter did not hold true in this case. The malabsorption may be attributed to exocrine pancreatic insufficiency however the reason for hypomotility remains unknown. However, an increased prevalence of mesenteric torsion have been reported in German Shepherd dogs in Finland with pancreatic acinar atrophy, a major cause of exocrine pancreatic insufficiency (Williams, 2005) but has not been reported anywhere else. Mortality associated with mesenteric torsion is almost 100%, especially in German Shepherds (Westermarck and Rimaila-Parnanen, 1989). Prompt surgical intervention has been associated with poor survival in this breed as was in this clinical case. Most deaths reported are during recovery from anaesthesia and is usually the result from a combination of hypovolemia, bacterial translocation due to mucosal barrier breakdown and subsequent toxemia. Reperfusion injury with the correction of mesenteric

torsion is also believed to be associated with the release of reactive oxygen species which have deleterious effects on tissues and is believed to set in within the first few minutes of surgical correction (Junius, Appeldoorn, and Schrauwen, 2004).

Diagnosis of mesenteric torsion is difficult as clinical signs are nonspecific and the condition is relatively rare, however association with exocrine pancreatic insufficiency or German Shepherd dogs should warrant radiographic examination and emergency explorative laparotomy to increase the odds of survival.

REFERENCES

- Allenspach, K. And Gaschen, F. P., Small Intestinal Diseases. In: *Small Animal Gastroenterology*, Steiner, J.M., (ed.), Schlutersche, 2008
- Junius, G., Appeldoorn, A. M. and Schrauwen, E., 2004. Mesenteric volvulus in the dog: a retrospective study of 12. *J. Small Anim Pract.*, 45:104-107
- Westermarck, E. and Rimaila-Parnanen, E., 1989. Mesenteric torsion in dogs with exocrine pancreatic insufficiency: 21 cases (1978-1987). *J Am Vet Med Assoc*; 195(10):1404-1406.
- Williams, D.A. 2005, Disease of the exocrine pancreas. In: *BSAVA Manual of Canine and Feline Gastroenterology*, 2nd Ed., Edt. Hall, E.J., Simpson, J. W. And Williams, D.A., BSAVA, .

INFOMANIA Answers

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|-------------------------------------|--|-------------------|
| 1. Gastronomy | 6. The Omnivore's Dilemma | 11. Porotta |
| 2. Umami | 7. A diet which includes fish but no meat. | 12. Poussin |
| 3. Scoville scale | 8. Cuisine | 13. Taste |
| 4. Complete loss of taste | 9. Shawarma | 14. Oenology |
| 5. Mono sodium Glutamate(Ajinomoto) | 10. Sundaes | 15. Nutrigenomics |