

Short Communication

SURGICAL MANAGEMENT OF TRAUMATIC ABDOMINAL HERNIA IN A PUP

Ram Niwas^{*1}, Neeraj Arora¹, Ribu Varghese Mathew²

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ABSTRACT: A three-month-old German shepherd pup was brought with the complaint of gradually increasing swelling on the left lateral abdominal region for one month after a traumatic injury. History, physical and radiographic examination revealed herniation of the spleen. Surgical intervention was done to repair the defect and during herniorrhaphy, it was found that the spleen was herniated along with partial herniation of stomach which was of rare occurrence. Herniorrhaphy was performed after replacement of visceral organs into the abdominal cavity. The pup recovered uneventfully without any complications and revealed normal feeding habits and behavioural activity.

Key words: Lateral hernia, Spleno-gastric, Pup, Herniorrhaphy.

Hernia is defined as the protrusion of the contents of a body cavity through a normal or abnormal opening in the wall of that cavity either to lie beneath the intact skin or to occupy another adjacent body cavity (Krishnamurthy 2015). Ventral or lateral abdominal hernia is a term used to describe herniation of contents through any part of abdominal wall other than a natural orifice (Das *et al.* 2017). Hernias in dogs can be either congenital or acquired (Bharathidasan *et al.* 2018). Acquired hernias are caused by some sort of blunt traumatic injury such as exposure to automobile accidents (Shaw *et al.* 2003). It also results from sharp penetrating trauma including bite wounds, knife wounds, impalement injuries and gunshot wounds. Traumatic hernias lack a peritoneal sac and the hernial contents are displayed directly through a rent or tear in the abdominal wall (Pavletic *et al.* 2005). Herniation of gastrointestinal contents is common in lateral abdominal hernia but involvement of spleen and stomach together is of rare occurrence. The present article reports a case of lateral traumatic spleno-gastric abdominal herniation in a German shepherd pup and its surgical management.

Case history and observations

A three-month-old male German shepherd pup was brought to Veterinary Clinical Complex with the history of gradually increasing swelling for one month on the

left lateral abdominal region just caudal to the last rib after a traumatic injury (Fig. 1). History revealed normal appetite and defecation and no incidence of vomiting or constipation. The pet was active, alert and well hydrated on presentation. The Haematological and physiological parameters like Hb, TLC, DLC, temperature, pulse and heart rate were within the normal clinical range. Physical examination of the swelling revealed a boot shaped elongated structure resembling spleen that was irreducible in nature. The pup was further subjected to radiographic examination that revealed the involvement of the spleen. Thus, based on history, physical and radiographic examination it was diagnosed as a case of traumatic splenic lateral abdominal hernia and it was decided to surgically repair the defect owing to the healthy condition of the pup.

Surgical treatment

The pup was prepared for aseptic surgery as per standard protocol. Inj. Atropine sulphate @ 0.04 mg per kg body weight subcutaneous was used as premedicant. General anaesthesia was achieved by combination of Inj. Xylazine Hydrochloride @ 1 mg per kg body weight and Inj. Ketamine Hydrochloride @ 5 mg per kg body weight intramuscular and pup was secured in right lateral recumbency. Skin over the swelling was incised and the underlying tissues were bluntly dissected to expose the

¹Assitant Professor, ² M.V.Sc Scholar, Dept. of Veterinary Surgery and Radiology, College of Veterinary Sciences, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar, Haryana, India.

*Corresponding author. e-mail: drsundariwal@gmail.com



Fig. 1. Photograph showing swelling on the left lateral abdomen caudal to last rib.

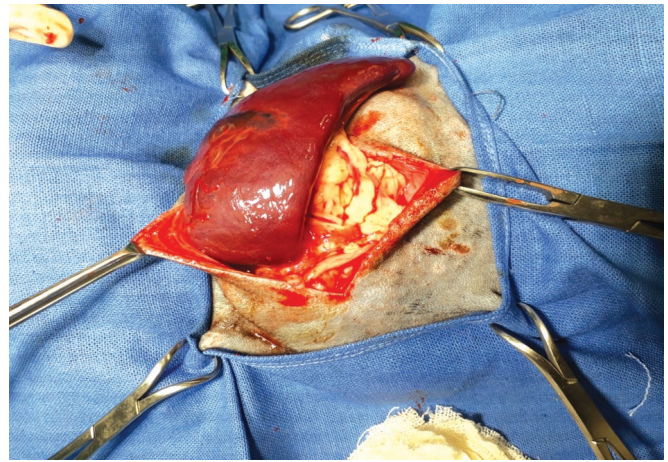


Fig. 3. Photograph showing herniated spleen with visible necrotic foci at centre.

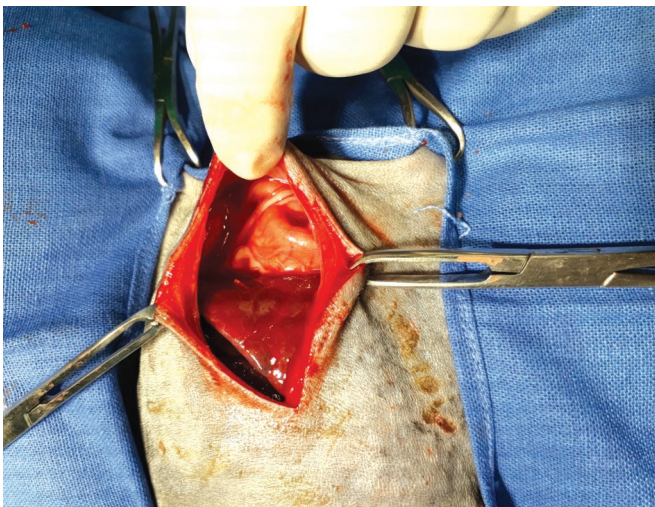


Fig. 2. Photograph showing herniated spleen along with stomach (Partially herniated).

hernial contents. It was found that the spleen was the major visceral organ involved in herniation along with stomach which was lying dorsal to the spleen (Fig. 2). The spleen had small necrotic foci which might have been resulted due to the trauma (Fig. 3). The adhesions with the visceral organs were separated and the hernial ring was exposed. The spleen and stomach were carefully replaced back to its normal anatomical position in the abdominal cavity avoiding the torsion of spleen and stomach. Herniorrhaphy was performed as per standard surgical technique.

Postoperatively antibiotic Inj. Ceftriaxone @ 20 mg per kg b.wt and analgesic Inj. Meloxicam @ 0.3 mg per kg b.wt were administered parenterally for five days. The owner was advised to keep the pet on reduced diet for the next five days and to restrict the movement for next two weeks. Daily wound dressing and application of fly repellent spray was also advised. Skin sutures were

removed 14 days postoperatively and the pet showed an uneventful recovery and had normal appetite and behavioural activity.

Discussion

Abdomen is a very delicate part of the body of the animals. It is subjected to both trauma and clinical disorders (Karrouf *et al.* 2016). Abdominal hernias generally occur secondary to trauma mostly automobile accidents or bite wounds, however occasionally also occur as congenital defect (Das *et al.* 2017). In the present case also, the herniation occurred after a traumatic injury. The most common locations for traumatic abdominal hernias are in front of pubis, around the ribs, lateral abdomen, dorsal abdominal wall attachment to the transverse process of the lumbar vertebrae and the femoral triangle area (Pavletic *et al.* 2005). Here the herniation was found on the left lateral abdominal region caudal to the last rib. When hernia associated with blunt trauma, they are a result of rupture of the wall from within and caused by an increase in the intra-abdominal pressure while abdominal muscles are contracted (Fossum 2013). Hernias with large abdominal wall defects may be less of a threat to patients compared with those with smaller defects that are more likely to entrap variable portions of a visceral organ (Pavletic *et al.* 2005). Even though the hernial ring was smaller in diameter, no complications were found associated with the visceral organ herniation. Lack of peritoneal covering favours the development of adhesions between the viscera and sac and finally may cause incarceration or strangulation (Krishnamurthy 2015). In the present case also, minor adhesions were present with the herniated organs that were separated carefully. The contents of the hernia are usually omentum or part of gastrointestinal tract (Gupta 2012). Even though

the stomach was herniated partially in the present case, the herniation of spleen was major and was of rare occurrence. The most common surgical complications are hernia recurrence and wound infection (Fossum 2013). Over one month of follow up, no such complications were reported and the pup had an uneventful recovery.

Conclusion

Abdominal hernias involving different organs like intestine, stomach and mesentery alone, are commonly seen in traumatic condition but involvement of spleen and stomach together is of rare occurrence.

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