

SURGICAL MANAGEMENT OF INGUINAL HERNIA IN A DOG

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Introduction

Hernia is an abnormal protrusion of an organ or tissue through a normal body opening. An inguinal ring defect allows the abdominal contents to enter the subcutaneous space. The potential factors involved in the development of inguinal hernias might be anatomical, hormonal and metabolic in nature. However, the exact etiopathogenesis is still unknown (Smeak, 2003). Clinical signs often range from a painless inguinal mass to signs related to incarcerated or nonviable small intestine. Inguinal hernias may be congenital or acquired, of which the former occur in dog as a result of a defect in the inguinal ring (Pratschke, 2002). The congenital inguinal hernias are rare in dogs and may co-exist with the umbilical hernias (Fossum, 2007), while acquired inguinal hernias are often seen in middle aged intact bitches (Waters *et al.*, 1993). The usual contents of inguinal hernia may include omentum, fat, ovary, uterus, small intestine,

colon, bladder and spleen, with omentum being the commonest (Bellenger, 1996). The present paper reports inguinal hernia in a German Shepherd bitch and its surgical management.

Case History and Clinical Findings

An 8-year-old female German Shepherd dog was referred to the Division of Surgery, IVRI, with the history of oliguria and swelling in the left inguinal region for 4 days. Clinical examination revealed normal heart rate, respiratory rate and rectal temperature. General condition, appetite, capillary refill time and hydration status were also normal. On physical examination, a soft, non-painful and reducible swelling was palpated in left inguinal region. Based on history, clinical signs, physical examination and radiographic signs, inguinal herniation of urinary bladder was diagnosed and the surgical correction was undertaken.



Fig 1: Intra-operative view of hernial contents (urinary bladder and intestines) **Fig 2: Aspiration of urine from urinary bladder**

Treatment

The animal was restrained in dorsal recumbency and the ventral abdomen was prepared aseptically in a routine manner. An elliptical incision was made over swollen area on skin and hernial sac and ring were exposed by blunt dissection of the subcutaneous tissue. After making an incision the hernial contents that included urinary bladder and intestines were exposed (Fig. 1). Urine was aspirated

from the urinary bladder and then along with intestinal loops bladder was placed back in to the abdominal cavity (Fig. 2). The base of the hernia sac was freshened and the opening was closed with 2-0 PGA in simple continuous pattern and inguinal ring was sutured with 2-0 PGA in a simple interrupted pattern (Fig. 3). Finally, the subcutaneous tissue and skin were closed in a routine fashion (Fig. 4). Postoperatively the dog was treated with

ceftriaxone @20mg/kg body weight for 5 days and meloxicam @0.5 mg/kg body weight for 3 days. Sutures were removed on 12th



postoperative day and the animal had an uneventful recovery.



Fig 3: Reduction of hernial contents and closure of hernial ring Fig 4: Closure of skin

Results and Discussion

Acquired inguinal hernias are relatively common in dogs and most often involve middle-aged intact bitches. Factors potentially involved in inguinal hernia formation include anatomical changes, hormonal influences and metabolic disorders. As inguinal hernias typically appear during estrus or in pregnant bitches, estrogen is believed to play a major role in the development of these types of hernias in dogs (Smeak, 2003 and Byers *et al.*, 2007). Inguinal hernia may also be caused by trauma. Traumatic inguinal hernia may occur as a result of congenital weakness of the musculature or abnormality of the inguinal ring (Fossum, 2007). Obesity increases intra-abdominal pressure, forcing abdominal fat through the inguinal canals. Furthermore, accumulation of fat around the round ligament may dilate the vaginal process and inguinal canal, allowing herniation (Smeak, 2003). The inguinal hernia may be unilateral or bilateral; unilateral inguinal hernias occur more commonly in the left side (Smeak, 2003) as also recorded in the present case. Complications in dogs treated surgically for inguinal hernia are incisional infection, wound dehiscence, hematoma, seroma, excessive postoperative swelling, hernia recurrence, sepsis or peritonitis and death (Jahromi *et al.*, 2009). The overall prevalence of postoperative complications was 17% and the mortality rate was 3% in a large series of inguinal hernias in dogs (Smeak, 2003). However, the present case showed uncomplicated healing.

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