

SURGICAL MANAGEMENT OF INGUINAL HERNIA IN A DOG

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A four year old, male Spitz dog was presented with history of an unusual swelling in right inguinal region and was revealed as soft, non-painful and reducible swelling on physical examination. Based on the history, physical examination and ultrasonographic examination the case was diagnose as inguinal hernia and surgical management was planned. Inguinal herniorrhaphy was performed under general anaesthesia after repositioning all the contents to the abdominal cavity. Post-operatively antibiotics and analgesics were administered and the dog recovered uneventfully.

Keywords: Dog, Herniorrhaphy, Inguinal hernia.

Inguinal hernias are protrusions of organs or tissues through the inguinal canal adjacent to the vaginal process (Fossum, 2013). Inguinal hernias may arise from a congenital abnormality of the inguinal ring or may be caused by trauma. An inguinal ring defect allows abdominal contents (e.g., intestine, bladder or uterus) to enter subcutaneous spaces. Congenital hernias may be associated with other abnormalities, such as umbilical hernia, perineal hernia, and cryptorchidism, while acquired inguinal hernias are often seen in middle aged intact bitches (Waters *et al.*, 1993). Factors potentially involved in the development of inguinal hernia may be anatomical, hormonal or metabolic in nature (Smeak, 2003). Clinical signs range from a painless inguinal mass to signs related to incarcerated or nonviable small intestine. Both neutered and intact male and female dogs may develop non-traumatic inguinal hernias. In the present study a case of inguinal hernia in a male dog and its successful surgical management is reported.

Case History and Observation

A four year old, male Spitz dog weighing about 12 kg body weight was presented with history of an unusual swelling near right side of the penis since three months (Fig.1). General condition, appetite, capillary refill time and hydration status were normal. On physical examination, a soft, non-painful

and reducible swelling was palpated in right inguinal region. Ultrasonographic examination revealed presence of intestinal loop at the swollen site of inguinal region adjacent to the body of the penis (Fig.2). Based on the history, physical examination and ultrasonographic examination the case was diagnose as inguinal hernia.

Surgical Treatment

The operative site covering entire ventral abdomen was prepared for aseptic surgery. The animal was premedicated with atropine sulphate @ 0.04mg/kg followed 10 minutes later by xylazine hydrochloride @ 1mg/kg body weight intramuscularly. The induction of anaesthesia was carried out with ketamine hydrochloride @ 10mg/kg intravenously followed by i/v administration of incremental doses as and when needed during surgery for maintenance of anaesthesia. The animal was positioned in dorsal recumbency. An elliptical incision was made over the swollen area on skin and hernial sac and ring was exposed by blunt dissection of the subcutaneous tissue. After making an incision the hernial contents (intestines) were exposed (Fig.3). Adhesion was dissected free. All contents were repositioned to the abdominal cavity by twisting the redundant sac. The sac was trimmed at the margin of the abdominal ring. The hernial ring was sutured by a simple

contineous suture pattern using No. 0 Vicryl (Fig.4). The subcutaneous tissues were apposed in continuous pattern using Vicryl-0

for obliteration of dead space. The skin wound was closed by simple interrupted manner using non-absorbable suture material polyamide size 2-0 (Fig.5). Post-

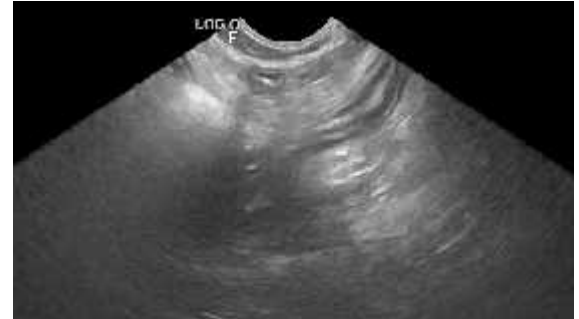


Fig.3. Reduction of hernial contents.

Fig.4. Closure of hernial ring



operatively, antibiotic Ceftriaxone @ 20 mg/kg body weight twice daily for 5 days and analgesic Meloxicam @ 0.2 mg/ kg body weight once daily for 3 days were

administered. Wound dressing was done on alternate days with povidone iodine. The owner was advised to muzzle the dog and cover the abdomen by clean cotton cloth to

avoid licking and scratching. On 15th post-operative day skin sutures were removed and the recovery was uneventful.

Results and Discussion

The inguinal hernia may be unilateral or bilateral; unilateral inguinal hernias occur more commonly in the left side, but in the present cases it was in right side. Anatomically, the inguinal canal is shorter in length and larger in diameter in females. In addition, the thickened free margin of the peritoneal fold, containing the round ligament, that reflects through the inguinal canal in bitches slightly dilates the canal, predisposing to inguinal hernia as also reported by Dyce *et al.* (1987). Weakening of the structures in the abdominal wall can occur due to an altered nutritional or metabolic status in the dog as also mentioned by Smeak (2003). Obesity increases intra-abdominal pressure, and could force abdominal fat through the inguinal canals. Supporting structures of the abdominal wall could become weak or stretch owing to nutritional or metabolic problems, such as hyperadrenocorticism and various rectal diseases, such as rectal deviation, rectal sacculation, and rectal diverticulum. No such history and evidence were present in the present case.

Surgical management of inguinal hernia consists of identification of the hernia contents, surgical resection of nonviable tissue, herniorrhaphy and in some instances, neutering. As herniorrhaphy by simple interrupted or mattress sutures has also been reported as effective by Park (1981) in accordance to it in the present case the hernial

ring was sutured by simple continuous suture followed by obliteration of dead space of subcutaneous tissues in continuous pattern and also found successful.

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 s also recorded by Jahromi *et al.* (2009). The reported case did not show any form of complications and there was an uneventful recovery.

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