

# INGUINAL HYSTEROCELE WITH PYOMETRA IN A DACHSHUND DOG

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An 8-year-old, 15.8 kg, intact female Dachshund dog was presented to the Small Animal OPD, Department of Veterinary Surgery and Radiology, Veterinary College, Hebbal, Bengaluru, with the complaint of progressively increasing unilateral swelling in the caudal ventral abdominal region since 20 days. Physical examination revealed soft, nonreducible swelling in the left inguinal region. Part of the ring was palpable at the base of the swelling. The condition was diagnosed as inguinal hernia. A decision was taken to correct it by surgical intervention. Under general anaesthesia, ventral midline approach was made to evaluate and reposition the hernial contents. Fluid-distended uterine horns were observed in the hernial sac. Routine ovariohysterectomy was performed and hernial ring was closed. Animal recovered uneventfully.

**Keywords:** Inguinal hernia, herniorrhaphy, hysterocele.

Inguinal hernias are protrusions of organs or tissues through the inguinal canal adjacent to the vaginal process (Fossum, 2019). Inguinal hernia can be congenital or acquired. Acquired inguinal hernias are mostly due to trauma that weakens the abdominal musculature, resulting in abnormality of the inguinal ring. Contents of the inguinal hernia may include omentum, fat, ovary, uterus, small intestine, colon, bladder and spleen, which can become trapped and a life-threatening problem (Formston, 1990). Clinical manifestations include non-painful, irreducible pendulous unilateral swelling in the caudal inguinal region (Kumar *et al.*, 2020). In addition to the swelling, vomiting, constipation, abdominal pain or depression may accompany the condition, depending on the entrapped organ/tissue (Grier *et al.*, 1971).

Abdominal radiographs and ultrasonographic examinations may help to identify the contents of the hernial sac. Loss of the caudal abdominal stripe may be noted in the abdominal radiographs of affected animals (Fossum, 2019). Surgical repair following reduction of the hernia is the only recommended treatment for inguinal hernias (Smeak, 2012). Surgical management of inguinal hernia consists of identifying the hernia sac, assessing the viability of the

hernia contents, surgical resection of nonviable tissue, herniorrhaphy, and, in some instances, neutering (Alireza *et al.*, 2009).

## Case history and observations

An 8-year-old, 15.8 kg, intact female Dachshund dog was presented to the Small Animal OPD, Department of Veterinary Surgery and Radiology, Veterinary College, Hebbal, Bengaluru, with the complaint of unilateral swelling in the caudal ventral abdominal region, which had been progressively increasing in size in the last 20 days. The owner mentioned that they had noticed estrus signs 8 weeks before the presentation, and the dog had not been bred during that time. No clinical signs were shown by the animal, which had a good appetite and activity. Upon clinical examination, the dog was normothermic with a normal heart rate, respiratory rate, conjunctival mucus membrane (CMM), capillary refilling time (CRT), and hydration status. Physical examination revealed soft, nonreducible swelling in the left inguinal region (Fig.1). Pain or discomfort was not evident on palpation. Part of the ring was palpable at the base of the swelling. Based on signalment and clinical findings, mammary gland neoplasia was ruled out and the condition was diagnosed as inguinal hernia. A

decision was made to correct it by surgical



**Fig. 1** Soft swelling in the left inguinal region

intervention.



**Fig. 2** Exposing hernial contents



**Fig. 3** Infected uterus along with ovaries



**Fig. 4** Hernial ring

### **Surgical Treatment**

The owner had consented to the surgery, and the animal was subjected to inguinal herniorrhaphy under general anaesthesia. Pre-operatively, the animal was fasted for 12 hours, and water was withheld for 9 hours. The animal was premedicated with Inj. Atropine sulphate at the dose of 0.04 mg/kg body weight (subcutaneous) and Xylazine hydrochloride at the dose of 1 mg/kg body weight (intramuscular). Preoperative Ceftriaxone at the dose of 25 mg/kg body weight (intravenous) and Meloxicam at the dose of 0.3 mg/kg body weight (subcutaneous) were administered. General anaesthesia was induced with 2.5 ml of 2.5% Inj. Thiopental sodium and maintained with 3 ml of 2.5% Inj. Thiopental sodium.

The animal was positioned in dorsal recumbency and the site was prepared aseptically by scrubbing with a 7.5% Povidone Iodine scrub solution. A linear ventral midline incision was made just beside the swelling. Blunt dissection was done to locate linea alba and the same was incised to explore the abdominal cavity. A severely engorged, fluid-distended right uterine horn was visualised within the abdominal cavity. By following the right uterine horn and body, the left horn was located within the hernial sac. The inguinal opening was extended (kelotomy) to cautiously pull the contents of the hernial sac back into the abdominal cavity, including the fluid-distended left uterine horn and omentum (Fig. 2). A routine ovariohysterectomy was performed to address the pyometra (Fig. 3). Care was taken to

avoid contamination of the abdominal cavity during the ovariohysterectomy procedure. The contralateral inguinal ring was evaluated for abnormalities and found normal. The extended left inguinal ring (Fig. 4) and abdominal opening were closed using synthetic absorbable suture Polyglactin 910 No. 1 with a simple interrupted suture pattern separately. Subcutaneous incision was closed using absorbable suture Chromic catgut No. 1 with simple continuous suture pattern. A horizontal mattress suture pattern was used to close the skin incision with synthetic non-absorbable suture Polyamide No. 1. The animal had a smooth recovery from anaesthesia.

Post-operatively, the surgical wound was cleaned with 5% Povidone iodine solution and ointment containing Povidone iodine was applied. Later, a 2-layer dressing was done using sterile gauze. Post-operatively, the dog was treated with Tab. Cephalexin and Tab. Carprofen at the dose rates of 25mg/kg body weight BID orally and 3 mg/kg body weight SID orally, respectively. Surgical wound was monitored and dressed every alternate day. The animal had a good recovery without any complications. The skin sutures were removed on the 10th post-operative day.

## Results and Discussion

A defect in the inguinal ring results in protrusion of the abdominal organs or tissues, including omentum, intestine, urinary bladder, ovary, uterus, prostatic fat, and spleen through the inguinal canal as also reported by Smeak, 2012. Omentum is the most common organ present in canine inguinal hernias. A few cases of herniation of the gravid or infected uterus with or without cystic endometrial hyperplasia defined as inguinal hysterocele have been reported in the bitch as earlier reported by Smeak, 2012 and Gogny *et al.*, 2010 also. Physical characteristics of the swelling vary according to hernial contents and degree of associated vascular obstruction as also recorded by Fossum, 2019. Clinical signs reflect the size

of the hernia and the hernial contents and ranges from a painless inguinal mass to signs related to incarcerated or nonviable small intestine as also narrated by Alireza *et al.*, 2009. Prompt surgical correction is recommended to prevent complications associated with intestinal strangulation or pregnancy as also mentioned by Fossum, 2019. Surgery aims to reduce the contents and close the hernial ring so that herniation of abdominal contents cannot recur as also reported by Fossum, 2019. A ventral midline approach is preferred as it allows visualization of both inguinal rings and repair of bilateral herniation through a single incision as we have performed in the present case. Herniorrhaphy by simple interrupted or mattress sutures has been reported as effective, hence in this case also we have done. While closing the external inguinal ring, the most caudal aspect of the ring where the external pudendal artery and vein, the femoral artery, and genitofemoral nerve are located, were avoided to not be sutured as also mentioned by Sontas, *et al.*, 2013.

Post-operative complications include incisional infection, wound dehiscence, hematoma, seroma, excessive postoperative swelling, hernia recurrence, sepsis or peritonitis and death as also reported by Alireza *et al.*, 2009.

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