

RE# MJVR - 0014-2015

INGUINAL HYSTEROCOELE AND ITS SURGICAL MANAGEMENT IN A FEMALE DACHSHUND DOG

ANOOP SAINULABEEN*, SUDHEESH NAIR, KARTHIKA SATHEESAN AND DEVANAND

Department of Veterinary Surgery and Radiology, College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, Mannuthy, Thrissur, Kerala, India-680651

* Corresponding author: anoop@kvasu.ac.in

ABSTRACT. A 2-year-old (63 days) pregnant female dachshund dog was presented to the Teaching Veterinary Clinical Complex (TVCC) with complaint of a progressively growing swelling in the caudal ventral abdominal area. History, physical examination, radiography and ultrasonography confirmed an inguinal hysterocele. A ventral midline incision on the mass was made to relieve the fetuses and reduction of contents, and herniorrhaphy was performed. Sutures were removed on 7th post-operative day and the animal had an uneventful recovery.

Keywords: hysterocele, dachshund dog, herniorrhaphy, pregnancy

INTRODUCTION

Inguinal hysterocele, where there is herniation of uterus through the inguinal canal comes under the category of caudal ventral abdominal hernias (Slater D.; 1993). Even though no breed predilection has been reported, it is most commonly observed in toy breeds of dogs. Inguinal hernias can be either traumatic or non-

traumatic. The common contents in the hernial sac include fat, uterus, omentum, bladder and ovary (Byers G.C. *et al.*, 2007; Kalitha D. *et al.*, 2012; Simon S.M. *et al.*, 2013; Slatter D. *et al.*, 1993 and Waters D.J. *et al.*, 1993). For the surgical correction of the condition, either conventional method of incising through the ring or through ventral midline incision can be adopted (Serin G. *et al.*, 2009; Slatter D. *et al.*, 1993 and Waters D.J. *et al.*, 1993). A case of an inguinal hysterocele in a female dachshund dog and its successful surgical management is placed on record.

A 2-year-old female dachshund dog weighing 8 kg was presented to the



Figure 1. The animal showing a progressively growing swelling in the inguinal region.



Figure 2. Radiograph showing the presence of two fetuses in the hernial sac.

Teaching Veterinary Clinical Complex (TVCC), Mannuthy, Kerala with the complaint of a progressively growing swelling in the inguinal region (Figure 1). The mass was hard to palpate and non-painful. The animal was on the 63rd day of pregnancy. The animal was lethargic with subnormal body temperature (99.5 °F). The heart rate was 120/min and the conjunctival mucous membrane was pale roseate. The capillary refill time was >2/min. The respiratory rate was 23/min. There was normal food and water intake and a brownish vaginal discharge was also observed. Lateral radiograph of the mass revealed skeletal structures (Figure 2) of the fetuses which confirmed the condition as inguinal hysterocele and ultrasonography of the mass confirmed the presence of two live fetuses. The condition was diagnosed as inguinal hysterocele and it was decided to correct it by surgical intervention

RESULTS

General anaesthesia was induced with injection of ketamine hydrochloride (Aneket, Neon Laboratories, Thane, Maharashtra, India) at 5 mg/kg body weight after premedication with injection of atropine sulphate (Atral, Geevet, Mehsana, Gujarat, India) at 0.045 mg/kg body weight and injection of xylazine hydrochloride at 1.5 mg/kg body weight intramuscularly. The anaesthesia was maintained with 2.5% isoflurane. Pre-operative administration of Ringer's Lactate (RL, Parenteral drugs (India) Limited, Indore, Madhya Pradesh, India) at the rate of 10 mg/kg. Ceftriazone (Intas Pharmaceuticals Ltd., Ahmedabad, Gujarat, India) at the rate of 25 mg/kg and injection of Tramadol (Contramal, AHPL, Goregaon, Maharashtra, Mumbai, India) at the rate of 2 mg/kg was done intravenously.

The dog was controlled on dorsal recumbency and an incision of about 4 cm long was made on the swelling to expose gravid uterus. The uterus was incised to relieve two live fetuses. The uterine incision was sutured with 2-0



Figure 3. Uterine incision closed by Cushing's followed by Lembert's suture pattern.

Polyglactin 910 (Reylon Glactin, M Co Hospital Aids Pvt. Ltd., Hubli, Karnataka, India) in Cushing's followed by Lembert's suture pattern (Figure 3). The herniated uterus was gently reduced back to the abdominal cavity and the hernial ring was closed with Polyglactin 910 in simple continuous suture pattern. Subcutaneous tissue was apposed with 2-0 Polyglactin 910 in subcuticular suture pattern. The skin was apposed in horizontal mattress sutures using polyamide (Ethilon, Johnson and Johnson Limited, Aurangabad, Uttar Pradesh, India). A cotton gauze stent was placed over the suture line. Confinement and rest to the animal was given to prevent self mutilation of the surgical site. Post-operatively, Cefalexin 250 mg two times daily was advised for 5 days.

On the 7th post-operative day, the animal was healthy, the sutures were intact and food and water intake of the animal was normal. The sutures were removed and the animal had an uneventful recovery.

DISCUSSION

Inguinal hysterocoele can be acquired due to traumatic or non-traumatic causes, and toy breeds of dogs and dachshund are predisposed to this condition. Anatomic causes like shorter and large diameter vaginal process, nutritional causes, increased abdominal pressure due to obesity or pregnancy predisposes this condition. History, physical examination and ultrasonography are useful tools for the diagnosis of the condition (Martin K.D.J.

et al., 2001; Munro E. *et al.*, 1993; Nak Y. *et al.*, 2004; Noakes D.E. *et al.*, 2001; Serin G. *et al.*, 2009; Simon S.M. *et al.*, 2013 and Slatter D., 1993). Radiography can also be employed to confirm the condition in advanced stages of pregnancy (Azari O. *et al.*, 2008 and Munro E. *et al.*, 1993). Mammary neoplasms, mastitis and local abscesses are the major conditions to be differentially diagnosed (Noakes D.E. *et al.*, 2001).

The surgical correction of this condition involves pre-operative, operative and post-operative considerations. Pre-operative diet restrictions, stabilisation of the animal, antibiotic and analgesic therapy are very important (Slatter D., 1993). Injectable dissociative anaesthetics may be used for induction of anaesthesia (Nak Y. *et al.*, 2004). Conventional hernial repair through the inguinal ring (Slatter D., 1993 and Waters D.J. *et al.*, 1993) or a ventral midline incision parallel to the flank folds lateral to the hernial ring are feasible (Azari O. *et al.*, 2008 and Slatter D., 1993). If further breeding is not intended, an ovariohysterectomy may be performed (Gogny A. *et al.*, 2010). Incisional dehiscence and hernia recurrence were reported as complications in the surgical correction of inguinal hernias (Waters D.J. *et al.*, 1993). Incarceration of the uterus may also occur as a complication of hernia (Serin G. *et al.*, 2009).

Early presentation of the case, proper and timely diagnosis and treatment are necessary for a favourable outcome in the surgical management of inguinal

hysterocele. Even though the occurrence of inguinal hysterocele is rare, timely diagnosis and treatment could prevent untoward complications.

REFERENCES

1. Azari O., Vosough D. and Karamouzian M. (2008). Bilateral inguinal herniation containing the ovary, uterus and omentum. *Iran J Vet Surg* **8**: 93-97.
2. Byers G.C., Williams E.J. and Saylor K.D. (2007). Pyometra with inguinal herniation of the left uterine horn and omentum in a Beagle dog. *J Vet Emerg Crit Care* **17**: 86-92.
3. Gogny A., Bruyas J.F. and Feini F. (2010). Pyometra in an inguinal hernia in a bitch. *Reprod Domest Anim* **45**: 167-169.
4. Kalitha D., Choudhary M. and Sailo M. (2012). Inguinal hysterocele and epiplocele in a bitch. *Intas polivet* **13**:113-114.
5. Martin K.D.J., Philip S.B., Sarangam S.B. and Kankonkar A.P. (2001). Bilateral inguinal hernia with distinct hysterocele and omentocoele in a dachshund bitch. *J Ind Vet Asso* **10**:45-47.
6. Munro E. and Stead C. (1993). Ultrasonographic diagnosis of uterine entrapment in an inguinal hernia. *J Small Anim Pract* **34**:139-141.
7. Nak Y., Misirlioglu D., Nak D., Tuna B., Kumru H.I. and Alasonyalilar A. (2004). Findings of focal adenomyosis in a case of inguinal hysterocele accompanied with mammary tumour in a bitch. *J Fac Vet Med* **23**:99-102.
8. Noakes D.E. In: Noakes D.E., Parkinson T.J., England G.C.W. (Ed) *Maternal dystocia: Causes and treatment*. (2001). In: Noakes D.E., Parkinson T.J., England G.C.W. (ed): *Arthur's Veterinary Reproduction and Obstetrics*. WB Saunders, Philadelphia. pp 240-241.
9. Serin G., Yaygingul R., Tarimcilar T. and Sarierler M. (2009). An incarcerated inguinal hysterocele in a pregnant bitch: a case report. *Vet Med*. **54**: 382-386.
10. Simon S.M., Ramprabhu R. and Prathaban S. (2013). Surgical management of concurrent inguinal hysterocele, cystocele and epiplocele in a bitch. *Intas polivet*. **14**: 127-128.
11. Slatter D. (1993). Textbook of small animal surgery. In: Smeak D.D. (Ed.). *Abdominal Hernias*. W.B. Saunders company, Philadelphia. 433-454.
12. Waters D.J., Roy R.G. and Stone E.A. (1993). A retrospective study of inguinal hernia in 35 dogs. *Vet Surg*. **22**: 44-49.