Scientific Works. Series C. Veterinary Medicine. Vol. LXIV (1), 2018
ISSN 2065-1295; ISSN 2343-9394 (CD-ROM); ISSN 2067-3663 (Online); ISSN-L 2065-1295

PERINEAL HERNIA MANAGEMENT OF AN INTACT MALE DOG USING DEFERENTOPEXY TECHNIQUE - CASE REPORT

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Abstract

Bilateral deferentopexy represents a surgical technique of major relevance, in preventing recurrence of perineal hernias in intact male dogs. Ductus deferens, isolated during orhidectomy, and sutured afterwards ventrally on abdominal wall, are intended to exert a cranial traction and mantainance of urinary bladder and adnexal glands of reproductive system; thereby, the exerted pressure of these viscera on perineal region is significantly diminished postoperatively, avoiding recurrence. An intact caniche male, eleven years old received a diagnosis of unilateral perineal hernia. The surgery consisted in two procedures: bilateral orchiectomy followed by deferentopexy and perineal muscle suture. Perineal hernias, encountered in males older than 7 years, occur due to prostatic hypertrophy which generates a repetitive pressure in the perineal area, the predisposing factor being the striated muscle degeneration consistent in rhabdomyolysis.

Keywords: *deferentopexy, orchiectomy, perineal hernia.*

INTRODUCTION

Bilateral deferentopexy represents a surgical technique of major relevance, in preventing recurrence of perineal hernias in intact male dogs. Ductus deferens, isolated during orchiectomy, and sutured afterwards ventrally on abdominal wall, are intended to exert a cranial traction and mantainance of urinary bladder and adnexal glands of reproductive system; thereby, the exerted pressure of these viscera on perineal region is significantly diminished postoperatively, avoiding recurrence.

MATERIALS AND METHODS

An intact caniche male, eleven years old received a diagnosis of unilateral perineal hernia acquiring a complete history followed by examination of rectal region and digital rectal palpation.

The preanesthetic patient evaluation categorized it using the American Society of Anesthesiologists (ASA) belonging to Clase II. Preoperatively, the dog received Diazepam (0.4mg/kg) intravenously [IV] and Pethidine 3.5mg/kg intramuscularly [IM]. Fifteen minutes after premedication, the patient was preoxygenated for 5 minutes before the induction agent, Propofol, was administered at 4-6 mg/kg [IV] until orotracheal intubation was achieved. Maintenance with Isoflurane (2.5-1% IV) in 100% oxygen was accomplished and analgesia was completed by Lidocaine 1%, 1.5mg/kg as a bolus followed by a Constant Rate Infusion of 40 µg/kg/min.

The surgery procedures followed two steps: bilateral orchiectomy succeeded by deferentopexy and perineal muscle suture. It has been performed an “open” technique castration, in an elliptical manner, exposing tunica vaginalis, by dissecting out the testicles and the spermatic cord **(**funiculus spermaticus) achieving a direct visualization of the cremaster, ductus deferens and spermatic vasculature (Figure 1).

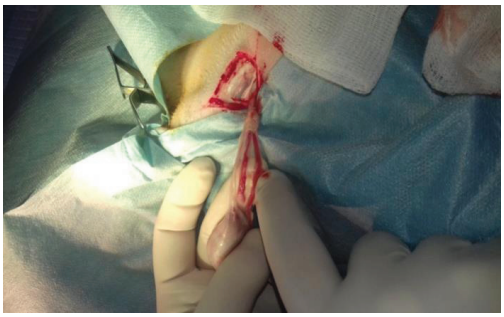

Figure 1 Exposure of spermatic cord composed of ductus deferens and adjacent vessel

Ligation of spermatic cord components has been achieved using a monofilament absorbable suture 3-0 Polydioxanone (PDS) (Figure 2).

Figure 2 Spermatic cord is transected being exposed and ligated each component, respectively. ductus deferens and adjacent vessels

A parapreputial skin approach, using a ventral medial incision of linea alba was performed, deferentopexy technique, consisting in inserting each ductus deferens through inguinal canals addressing laterally on both sides of abdominal cavity wall.
A simple interrupted suture of abdominal wall using synthetic monofilament absorbable suture 0 PDS, has been completed, in order to strengthen the adhesion of ductus deferens on the abdominal wall. It is noted that clamping of ductus deferens on both sides of abdominal wall is accomplished by perforating and tunnelling it, followed by knotting both, ductus deferens, along the ventral abdominal incision (Figure 3). A single suture technique for skin closure with 2-0 PDS was accomplished.

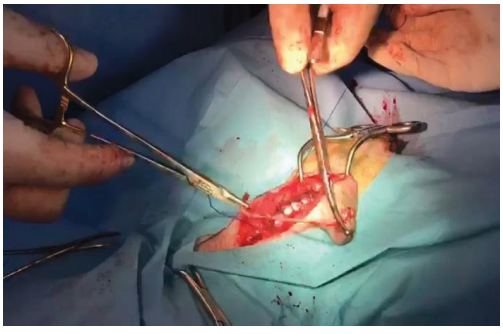

Figure 3 Clamping and knotting ductus deferens on ventral abdominal wall

Approaching the perineal hernia was made using a semicircular incision, assuming a side point between the base of the tail to the left ischial tuberosity (Figure 4).

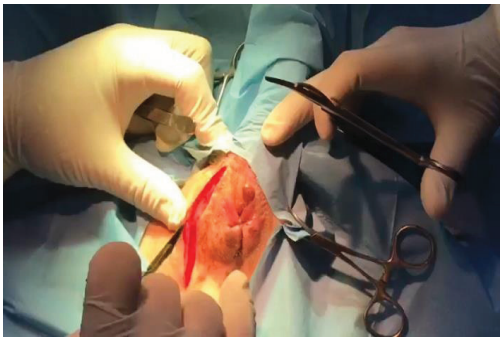

Figure 4 A semi-circular skin incision of unilateral perineal hernia

Hernial sac was isolated and various anatomical structures have been identified, including bladder, omentum and intestines.
The suture of the muscle layers with 2-0 PDS has been achieved; three sutures have been placed between coccygeus lateral muscle and external anal sphincter, between sacrotuberous ligament and external anal sphincter and three sutures between internal obturator muscle flap and external anal sphincter (Figure 5).

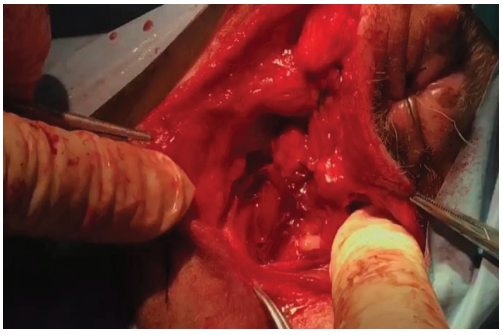

Figure 5 The appearance of herniorraphy after suture of external anal sphincter and internal obturator muscle flap

Subcuticular sutures were used for strengthen surgical wound closure with 2-0 PDS and a nonabsorbable monofilament 2-0 Polypropylene (PP) suture was used for the skin closure; this was completed by declivity to provide postoperatively drainage and efficient healing. (Commere, 2008).

RESULTS AND DISCUSSIONS

Perineal hernias found in plus seven years old dog males, it is assumed to occur due to prostatic hypertrophy which causes repetitive pressure in the perineal area, the predisposing factor being the striated muscle degeneration in this surface, a process called rhabdomyolysis. (Commere, 2008).

Anesthesia and analgesia were provided using a multimodal approach. Opioids confer optimal analgesia for different types of pain being safe when administered at clinical dosages; (Simon and Steagall, 2016). We preferred an opioid such as Pethidine, which may be more potent at κ-receptors, but having a rapid onset and a shorter duration of action, producing a short acting analgesia, which also exerts an antispasmodic activity on the smooth muscle of the large intestine. Pethidine does not cause as much constipation as Morphine and this may relate to its shorter duration of action, but it causes histamine release administered [IV]. The concentrations of Pethidine were maintained for 120 minutes after administration of a dose of 3.5mg/kg (Waterman and Kalthum, 1989). Lidocaine administered [IV] acts as a prokoinetic agent and has been used for postoperative treatment of ileus in people. It has been documented to have anti-inflammatory properties and direct stimulatory effects on smooth muscle. (Dowling, 2018).

Two hours later, the patient regained full consciouness. He was discharged 6 hours after he woke up and the owner reported two days of fecal incontinence, this status being a complication of the condition, rather than a complication of treatment (Sjollema et Sluijs, 1989). Complete healing was achieved two weeks postoperatively the dog evidencing normal urination and defecation.

A seven day Amoxicillin Clavulanate post operative therapy has been used, a broad-spectrum antibiotic prophylaxis being recommended for the immediate perioperative period, and antibiotic cover being typically continued for five to seven days after surgery (Fox, 2014). An Elizabethan collar has been used to prevent self-trauma maintaining the surgical site clean thus reducing the risk of contamination and infection (Pratschke, 2014).

CONCLUSIONS

The chance of perineal hernia occurring in intact dog males increases, these being often favoured by prostatic hypertrophy, with the involvement of prostate and bladder in herniar sac.

Elevation of the internal obturator muscle subperiostally from internal face of ischium and its suture to the perineal muscles, it's crucial for preventing future recurrence.

Orchiectomy together with deferentopexy decrease significantly the chance for recurrence of perineal hernia due to cranial orientation of the adjacent genital glands, thus reducing the pressure exerted on their perineal region (Sanspoux, 2012)

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