



Bilateral perineal hernia with bladder retroflexion in a 13-year-old intact Jack-Russel Dog: Case report

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Abstract

A 13-year-old male Jack-Russel was presented to the Usmanu Danfodiyo University Veterinary Teaching Hospital, Sokoto because of a swollen perineum. Physical and laboratory examinations revealed normal parameters, however a bilateral protrusion was noticed at the perineum suggestive of a bilateral perineal hernia. Contrast radiography revealed a hernia sac with intestinal segments on the left, urinary bladder and prostate on the right. Standard obturator muscle transpositional herniorrhaphy was successfully performed.

Keywords: Bilateral Perineal Hernia, Bladder Retroflexion, Cystic Kidney, Canine.

Introduction

Perineal hernia is common in intact old male dogs, although the incidence of bladder retroflexion is low, (Harvey, 1977; Wearer and Omemegbe, 1981; White and Herrtage, 1986; Van Sluijs, 1994). The incidence is sporadically encountered in the bitch, (Burrows & Harvey, 1973; Sandwith, 1976; Rochat & Mann, 1988; Niles & Williams, 1999). Although the aetiology of perineal hernia remains unclear and controversial, consistent associated conditions in males include: prostrate hyperplasia (Krahiwinkel 1983), atrophy of pelvic diaphragm muscles, (Desai 1982) in intact males (Weaver & Omamagbe, 1981; Desai, 1982; Hayes *et al.*, 1978).

Associated major clinical signs include unilateral or bilateral perineal swelling (Petit, 1962; Burrows & Harrey, 1973; Hayes *et al.*, 1978; Hosgood *et al.*, 1995; Niles & Williams, 1999) and dysuria in bladder retroflexion with incarceration (White & Herrtage, 1986). A presumptive diagnosis is made by identifying an absence of lateral rectal wall support or rectal sacculation during rectal examination. Confirmation is through contrast radiography or ultrasonography, (Hayes *et al.*, 1978; Dupre, 1997; Niles & Williams, 1999). Several surgical methods have been described for the management of perineal hernia with the highest success rate reported being a combination of dorsal

repair (Burrows & Harvey, 1973) with transportation of the internal obturator muscle (Hardie *et al.*, 1983; Van Sluijs & Shollema, 1989; Niles & Williams, 1999). In cases with severe sacculation and bladder retroflexion, cystopexy and colopexy is carried out sometimes before herniorrhaphy (Dupre, 1997; Niles & Williams, 1999). Once this occurs in males, bilateral orchidectomy is usually done along with herniorrhaphy (Burrows & Harvey, 1973; Harvey 1977; Hardie *et al.*, 1983). This paper presents the peculiarity of managing a bilateral perineal hernia with bladder and prostate retroflexion in a geriatric patient.

Case reports

Case history

A 13-year-old, 12.6kg body weight, intact male Jack-Russel was referred to UDUVTH with the chief complaint of swollen perineum (Plate I). The swelling was noticed some days prior to presentation and has been progressive despite no signs of discomfort exhibited by the dog. Medical history revealed current vaccination. Physical examination revealed a non-painful bilateral perineal swelling with partially reducible contents. On digital rectal palpation, there was bilateral absence of the pelvic diaphragm, rectal dilatation and prostatomegaly.

Blood was collected for haematology and blood chemistry, and faecal sample for endoparasite screening. Diazepam was administered at 1.5mg/kg i.m to sedate the patient while, the bowel was flushed with warm enema to ease radiographic study (plain and contrast).

The haematological and biochemical parameters were within the normal limits. Faecal sample was negative for endoparasite. Survey radiographic findings were suggestive of perineal hernia (Plates II & III) and this was confirmed by contrast radiography (Plates IV & V). There was retroflexion of the urinary bladder on the right side of fundus and intestinal segments on the left side of the fundus.

Perineal herniorrhaphy was planned for management of the condition and the patient was catheterized for administration lactated ringers' solution; at the time of premedication, prophylaxis of metronidazole (20mg/kg) and gentamicin (5mg/kg) were administered via the indwelling catheter. The patient was premedicated with diazepam (1.5mg/kg, I.M.) and atropine (0.03mg/kg, I.M); induced with propofol at 4mg/kg, I.V, given to effect and maintained with 1.5% halothane via cuffed endotracheal tube. The rectum was evacuated of its contents and a purse-string suture placed using zero nylon (Der, malin-Levis-Greek^R) around the anal opening. The perineum was then aseptically prepared.

The patient was placed on sternal recumbency with the hindquarter elevated and draped. The draped tail was reflected craniodorsally and clamped to the lumbar

region. An 8cm caudolateral skin incision was made from the base of the tail to the left ischium to access the hernia sac. The hernia contents were gently exteriorized into the pelvic peritoneal space carefully isolating the hernia ring for closure to occlude the sac and secure the tissues. Closure of the hernia sac was done by freeing the internal obturator muscle which was reflected dorsally and sutured to the external anal sphincter muscle with size 0-nylon (Dermalon-Davis-Geck^R) using simple interrupted pattern, and to the coccygeal muscle. The pudendal nerve and internal pudendal vessels vento-lateral to coccygeous muscle were adequately secured. The subcutaneous tissue was imbricated over herniorrhaphy site using size 0-polydioxanone (PDS-Ethnicon^R), and the skin was sutured with size 0-nylon (Dermalon-Davis-Geck^R) using interrupted horizontal mattress pattern. The procedure was repeated on the right side; cytocentesis was done before the bladder and prostate were returned into pelvic cavity. The purse-string suture was removed and the positioning of the patient was changed for routine bilateral orchidectomy.

Recovery from anaesthesia was uneventful (Plate VI) and the patient was hospitalized for 5 days during which contrast radiography was done. The urinary bladder and the intestinal segments were in orthotopic positions (Plate VII). Post operation the patient was maintained on bland diet and the skin sutures were removed on 12th day post operation (PO). The bland diet was maintained until full recovery after 3 months with no post operative complication.

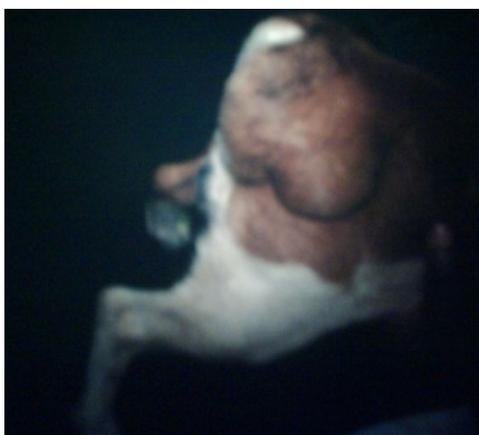


Plate I: A Bilateral Perineal Swelling in a 13-year-old Jack-Russel (right caudo-lateral view)



Plate II: Survey radiograph of pelvic abdomen (LV). Note the radiodense image along with radioluscent (air pockets) caudal to the coccygeus.



Plate III: Ventro-Dorsal view of pelvic abdomen. Note the bilateral radio-dense image and the radioluscent structures on the left mass.

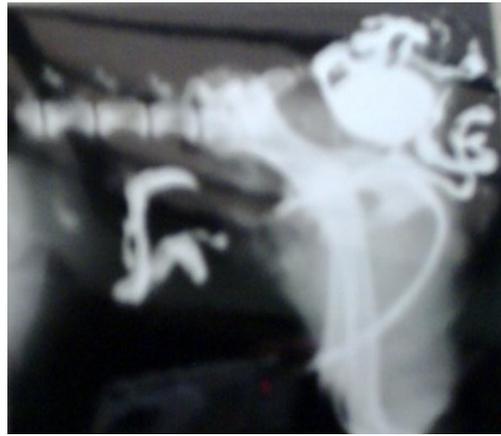


Plate IV: Lateral view positive contrast radiography (Barium follow through and retrograde cystography). Note the intestinal segment (left side) and urinary bladder (right side) as contents of hernia.



Plate V: V-D view positive contrast radiography (Barium followi through and retrograde cystography). Note the intestinal segment (left side) and urinary bladder (right side) as hernia contents.



Plate VI: Herniorrhaphy site, post surgery



Plate VII: Post Herniorrhaphy positive contrast radiography, Ventro-Dorsal view

Discussion

Despite the fact that canine perineal hernia is common, the frequency/prevalence is low and there very few reported cases in this environment. Although urinary bladder retroflexion was observed, anuria was not an accompanying complication as was previously reported by some authors (White & Herrtage, 1986, Van Sluijs, 1994). Other clinical manifestations documented by previous authors included bilateral or unilateral perineal swelling and defeacatory tenesmus, (Petit, 1962; Hayes *et al.*, 1978; Hosgood *et al.*, 1995; Niles & Williams, 1999).

The fact the patient was a geriatric agrees with the observation by other researchers that there is an association of perineal hernia with old age, prostate hyperplasia, atrophy of levator ani muscle (a major constituent of the pelvic diaphragm) and intact males, (Harvey, 1977; Weaver & Omomegbe, 1981; White & Herrtage, 1986; Van Sluijs, 1994; Hosgood *et al.*, 1995). Clinical diagnosis of perineal hernia in old male patient can largely be based on perineal swelling and absence of unilateral or bilateral rectal wall support on rectal examination and this must be supported by radiographic and ultrasonographic studies (Hayes *et al.*, 1978; White & Herrtage, 1986; Dupre, 1997; Nile & Williams 1999).

The fact that there was no post operative complication was concurs with the reports of Hardie *et al.* (1983), Van

Sluijs & Sjollema (1989) Van Sluijs (1994) & Niles & Williams (1999) that the use of transposition of obturator muscle flaps strengthens the herniorrhaphy. White & Hertage, (1986), Dupre, (1997) & Niles & Williams, (1999) suggested a two stage management where cystopexy and colopexy precedes perineal herniorrhaphy in cases with rectal dilatation and bladder retroflexion. But in this case, the bladder was reduced through the perineal herniorrhaphy incision on the right side and the intestinal contents reduced through the incision on the left side. The internal obturator muscle was transposed to reconstruct the pelvic diaphragm and there was no reoccurrence of the hernia.

In conclusion, the peculiarities of geriatric perineal hernia are numerous and when they occur they require skilled management. However bilateral perineal hernias are not uncommon but rare in our environment. When they occur the best operative management technique must employ obturator muscle flap transposition to avoid known complications. This paper shows that a one-stage herniorrhaphy could be done without cystopexy in the management of perineal hernia even in the presence of bladder retroflexion. Also propofol is a proven safe injectable anaesthetic agent in high risk patients.

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