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Surgical correction of perineal hernia in a non-descript dog

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Abstract

A case of perineal hernia was reported in a non- descript dog of 6 years old. History of progressively increasing mass beside the anus as well as difficulty in defecation and urination was reported. Through palpation and radiographic examination the case was confirmed as a unilateral perineal hernia with urinary bladder as hernial content. Herniorrhaphy was carried out under general anesthesia and corrected the condition. Orchiectomy was done to prevent the chance of recurrence.

Keywords: Perineal hernia, non-descript dog, Herniorrhaphy

1. Introduction

Perineal hernias occur when the perineal muscles separate, allowing rectal, pelvic and/or abdominal contents to displace perineal skin (Fossum *et al.* 2008) ^[1]. Depending on their location, they may be referred to as a caudal hernia, sciatic hernia, dorsal hernia, or ventral hernia. The cause of pelvic diaphragm weakening is poorly understood but believed to be associated with male hormones, straining, and congenital or acquired muscle weakness or atrophy. Conditions like prostatitis, cystitis, urinary tract obstruction, colorectal obstruction, rectal deviation or dilatation, perineal inflammation, anal sacculitis, diarrhea, constipation causes straining may stress the pelvic diaphragm.

Herniation may be unilateral or bilateral. Most herniation occur between the levator ani, external anal sphincter, and internal obturator muscles (caudal hernia), some other occur between the sacrotuberous ligament and coccygeus muscle (sciatic hernia), levator ani and coccygeus muscles (dorsal hernia), or ischiourethralis, bulbocavernosus, and ischiocavernosus muscles (ventral hernia). Hernial contents are surrounded by a thin layer of peritoneal fascia (hernia sac), subcutaneous tissue and skin. The hernia sac may contain pelvic or retroperitoneal fat, serous fluid, a deviated or dilated rectum, a rectal diverticulum, prostate, urinary bladder, or small intestine. Organs displaced into the hernia may become obstructed and strangulated, which is associated with rapid deterioration unless it is corrected.

Clinical signs often reflect the size of the hernia and the hernial contents and range from a painless perineal mass to signs related to incarcerated or nonviable content. Diagnosis of perineal hernia is accomplished by radiography and ultrasonography. Prompt surgical correction is recommended to prevent complications associated with strangulation. This report describes the diagnostic and the surgical treatment of perineal hernia in a non-descript dog,

2. History, Observation and Diagnosis

A nondescript male dog of 6year old weighing 16 kg was presented to Kollam District Veterinary Centre with a history of swelling besides the anal opening which had progressively increased in size for last one month and also showing difficulty in urination and defecation and also reported that the animal has not been used for breeding till now.

On general clinical examination all the physiological parameters like temperature, mucous membrane, heart rate, peripheral lymph nodes, pulse rate and respiratory rate were within the normal range and observed a unilateral semicircular mass on the right lateral aspect. On palpation it was found that animal had a semicircular; unilateral swelling on the right lateral aspect of anal opening which was soft non painful reducible tender mass with an evident hernial ring. To confirm the hernial content a radiograph was taken after passing the infant tube through the urinary tract and the tip of the infant tube could be observed in the hernial content-suggesting the hernial content as urinary bladder. Hence the history, clinical signs, and radiographic examination confirmed the condition as acquired perineal hernia. Performed

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cystocentesis and evacuated the urinary bladder, also advised to maintain the animal under oral laxative with biscodyl at a total dose rate of 10mg once daily till the day of surgery (“herniorrhaphy”).



Fig 1



Fig 2



Fig 3

3. Treatment

3.1 Anaesthesia

As Preanaesthetics medication the dog was given atropine sulphate at a dose rate of 0.045mg/kg body weight as intramuscular injection. After five minutes, xylazine hydrochloride was administered at a dose rate of 1.5mg/kg body weight as intramuscular injection. General anaesthesia was induced and maintained by administering mixture of ketamine hydrochloride +diazepam in 1:1 ratio after 15 minutes at a dose rate of 5mg/kg body weight and 0.2mg/kg body weight respectively as intramuscular injection for induction and as intravenous for maintenance ‘to effect’.

3.2 Pre-Operative Preparations

The patient was placed on lateral recumbency with pelvis elevated and the skin over the perineal region (10 to 15cm cranial to the tail base, laterally beyond the ischial tuberosity and ventrally to include the scrotum) was prepared aseptically by shaving and scrubbing with chlorhexidine lotion and washed with plenty of water. The surgical site was then mopped and painted with Tr. Iodine.

3.3 Site of Approach

Curvilinear incision was made 2 inches away on right lateral aspect of anal opening beginning cranial to base of tail, curving over the hernial bulge, and extending 2 to 3 cm ventral to the pelvic floor.

3.4 Surgical Technique

Deepened the incision through the subcutaneous tissues, identified the muscles of pelvic diaphragm and the defect. Exposed the herniated urinary bladder and ring. Gently reduced the hernial contents through the defect and placed to pelvic cavity. Apposed the muscles of pelvic diaphragm by placing double layered simple interrupted suture pattern with absorbable polyglactin 910 no. 2/0, followed by subcutaneous and intradermal suture with the same. Applied tincture benzoin on the suture site. In adjunction orchietomy was done to prevent the recurrence.



Fig 4: Deepening the incision through subcutaneous tissue



Fig 5: Grasping the herniated urinary bladder



Fig 6: Reducing the hernial content pelvic cavity



Fig 7: Suturing the muscles of pelvic diaphragm to



Fig 8: Subcutaneous and intradermal suture was placed to oppose the skin

3.5 Post-Operative Care

Advised the owner to maintain the animal under oral antibiotics post-operatively with ceftriaxone + sulbactam at a dose rate of 20mg/kg body weight orally twice daily and under oral NSAID with meloxicam at a dose rate of 0.2mg/kg body weight orally twice daily for five days post-operative. Also advised to continue laxative, biscodyl at a total dose of 10mg once daily for five more days.

4. Discussion

Perineal hernia is very common in uncastrated old male dogs and it is also reported in cats with a lesser frequency but its occurrence in large animals is very rare. Perineal hernia with urinary bladder as herniation content was observed by Malik *et al.* (2007) [2] in six intact male dogs and all of them were in seven to eight years of age. Prostate hyperplasia in male animals had been reported as a major attribute to cause straining and subsequent weakening of the perineal diaphragm leading to herniation. Dogs with benign prostate hyperplasia have increased levels of relaxin hormone and this can further contribute to subsequent weakening of pelvic diaphragm. Niles and Williams (1999) [3] reported that the development of perineal herniation was very rare in female dogs and reported the occurrence of perineal hernia in five year old neutered female dog with retro flexion of urinary bladder. Rochat and Mann (1998) [4] reported sciatic perineal hernia with herniation of retroperitoneal fat in an intact male Chihuahua and a spayed female Poodle.

Herniation can occur lateral to the anus either unilaterally or bilaterally. In canines right sided unilateral herniation (Head *et al.*, 2002) [5] was more common with a weak contralateral side of the perineum (Hosgod *et al.*, 1995) [6]. In the present case also herniation was reported in the right lateral aspect of anus.

The involvement of bladder in perineal hernia could be confirmed by passing a radio opaque catheter through the urethra to the bladder and doing radiographic examination of the pelvis (Sagu *et al.*, 2011) [7]. In this case also, diagnosis was done by symptoms like, palpating an evident hernial ring, radiographic examination of the hernial content after passing an infant tube through the urethra, regression of swelling after cystocentesis etc.

Sciatic perineal hernia in a male Chihuahua and a female Poodle were corrected surgically by herniorrhaphy using polypropylene suture in simple interrupted pattern (Rochat and Mann, 1998) [4]. Perineal hernia with urinary bladder as hernial content had been treated surgically by herniorrhaphy in a cross bred cow (Sridhar, 2011) [8], and also in a she buffalo (Sopti *et al.*, 1994) [9].

5. Conclusion

In the present case, owner reported that the animal had a progressively increasing mass on the right lateral aspect of anus and also reported the dog was not used for any breeding purpose. Hence it is concluded that the animal might be suffering from prostate hyperplasia, which in turn increased the production of hormone relaxin and then weakening of the pelvic diaphragm, which attributed to perineal herniation of urinary bladder. After diagnosing the case and confirming the hernial content as urinary bladder, cystocentesis was performed and corrected the condition by herniorrhaphy.

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