



Unilateral perineal hernia in female cat - case report

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[Hérnia perineal unilateral em gata – relato de caso]

D.P. Alves¹ , T.L. Risso¹ , T.M. Moreira¹ , K.L.S. Navarro¹ , F.F.P.C. Barros² ,
M.E.S.L. Fernandes² , H.J.M. Souza²

¹Graduate, Hospital Veterinário, Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil

²Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil

ABSTRACT

The objective is to report a clinical surgical case of perineal unilateral hernia in a female feline, neutered, 13-years old, mixed-breed admitted in the “hidden for review” Veterinary Hospital presenting prostration, constipation, volume increase and pain in right perineal region started two weeks ago. On clinical inspection it was possible to visualize a rigid, irreducible and painful increased volume in the right perineal region. Ultrasound showed that the increased volume was a hernia containing the colon. The surgical correction was made with herniorrhaphy. One week after the surgical procedure the patient presented a cutaneous abscess, probably originated from fecal contamination, and it was treated by prolonging the use of systemic antibiotics and cleaning of the site. On 45-days after the surgical procedure the patient did not show signs of pain or discomfort and defecated normally. It is suggested that despite perineal hernias being unusual in females, especially neutered, this disease should be included as a differential diagnosis in animals presenting increase of perineal volume, regardless of sex. The classical technique with sutures was considered fast, with low trauma, unlike other correction techniques, besides being successful, avoiding recurrence of the condition and bringing comfort and well-being to the patient.

Keywords: classic herniorrhaphy, cutaneous fistula, feline

RESUMO

Objetiva-se relatar um caso clínico cirúrgico de hérnia perineal unilateral em felino, fêmea castrada, 13 anos, sem raça definida, atendida no Hospital Veterinário “escondido para revisão”, a qual apresentava prostração, constipação, aumento de volume e dor em região perineal direita. A correção cirúrgica se deu por herniorrafia. No pós-operatório foram utilizados antibiótico, anti-inflamatório, analgésico e laxante osmótico. Os curativos foram feitos com limpeza, utilizando-se solução fisiológica e pomada antimicrobiana. Após uma semana do procedimento cirúrgico, a paciente apresentou aumento de volume flutuante na região da cirurgia, que evoluiu para uma fístula cutânea, drenando moderada quantidade de líquido purulento, que foi resolvido estendendo o uso de antibiótico sistêmico e limpeza local. Em 45 dias pós-operatório, a paciente não demonstrava mais sinal de dor ou desconforto, e defecava normalmente. Sugere-se que, apesar de as hérnias perineais serem pouco comuns em fêmeas, sobretudo castradas, deva-se incluir essa afecção como diagnóstico diferencial em animais com aumento de volume perineal, independentemente do sexo. A técnica clássica com utilização de suturas foi considerada simples, rápida, fácil e pouco traumática, diferentemente das demais técnicas de correção, além de ter sido bem-sucedida, evitando recidiva do quadro e conferindo conforto e bem-estar à paciente.

Palavras-chave: felino, fístula cutânea, herniorrafia clássica

INTRODUCTION

Hernias are described as the passage of the viscera through their natural cavity. They generally occur in the diaphragm and the

perineum due to a failure in the development of this tissues or by a tissue fragility that facilitates the muscle and fascia to rip allowing the passage of viscera for inadequate anatomical regions, changing the syntopy between the organs involved (Moreira, 2020). Hernias are classified according to where they occur such as:

Corresponding author: dpdanielpinho@gmail.com

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diaphragmatic, umbilical, inguinal, femoral, and perineal. Regarding the structures involved they are classified as true or false (Fossum, 2021). And they are classified as reducible or irreducible regarding their introjection (Aquino Neto, 2023).

Perineal hernia is the result of weakening and withdrawal of the pelvic diaphragm musculature, allowing caudally transit of abdominal and intrapelvic organs to the perineum subcutaneous cellular tissue (Swieton *et al.*, 2020). The most common muscles involved are the sphincter ani externus, levator ani and obturator internus (Fossum, 2021). Affects more frequently dogs, occurring in cats only 0,1 a 0,4% of the reported cases. It is more common in non-neutered male dogs over 7-years old (Swieton *et al.*, 2020). It is a multifactorial disease, predisposed by hormonal influences, body conformation, neurogenic atrophy, and factors that provoke tenesmus and dysuria such as prostatomegaly, constipation, cystitis, and urolithiasis (Shaughnessy e Monnet, 2015; Swieton *et al.*, 2020).

The diagnosis is based on medical history, clinic evaluation demonstrating increase of the perineal volume reducible or not, and in imaging exams like abdominal ultrasound that facilitates the identification of the structures involved and rule out presence of neoformations that resemble irreducible hernias, and abdominal and pelvic radiography that allows the identification of fractures in the hip and visualization of the pelvic canal and herniated organs. To the general patient evaluation, laboratory tests are important such as blood count and renal and hepatic serum biochemistry (Moreira *et al.*, 2020).

Perineal hernia treatment is surgical and aims to correct muscle defects using sutures or muscle flap and synthetic fabrics when the musculature is fragile or the opening too extensive. It is imperative that the patient is stable and treated before the surgical procedure. When constipated, the patient may benefit from the use of emollients (Moreira *et al.*, 2020).

The severity and the clinical signs can change mostly because of the content present in the hernia, and if there is or isn't viscera entrapment. Bladder retroflexion can lead to dysuria, anuria and stranguria. However, chronic entrapment of intestinal loops can lead to necrosis and bowel

ischemia. These factors contribute to putting the case on the worse prognosis (Fossum, 2021).

This paper aimed to report the clinical surgical conduction of a unilateral perineal hernia in a female feline patient, neutered, 13-years old, mixed-breed, presenting prostration, constipation, volume increase and pain in the right perineal region admitted in the "hidden for review" Veterinary Hospital.

CASUISTRY

A female feline patient, neutered, 13-years old, mixed-breed, weighing 3.5 kg, non-tested for FIV and FeLV was attended to "hidden for review" Veterinary Hospital presenting prostration, constipation, volume increase and pain in right perineal region (Fig.1) with two weeks evolution. According to her tutor, the animal did not experience any traumatic event but has street access and engaged in fights with another cat.

In the physical exam patient presented heart rate of 160 beats per minute and respiratory rate of 60 breaths per minute with no changes in auscultation, rectal temperature 39°C, capillary refill time 2 seconds, normal colored mucosa, and no alteration in lymph nodes and abdominal palpation. In the evaluation it was possible to observe an increase of rigid, painful, and irreducible volume in the right perineal region (Fig. 1). To close the definitive diagnostic, ultrasound was performed which confirmed unilateral perineal hernia in the right region with the presence of colon containing feces inside (Fig. 2).

Since the patient presented pre-operative constipation, abdominal radiography was performed to evaluate the colon, and it was possible to discard the megacolon suspicion. Hematological blood count and serum biochemistry exams were made. Biochemistry didn't show any alteration. Hematology showed lymphopenia (781/ μ L ref: 1500-7000/ μ L) with reactive lymphocytes. Patient was sent to surgical service and therapy with Ondansetron (0.5mg/kg; BID), Cobavital (0.5mg/kg; SID) and osmotic laxative (0.5g/kg; SID) was initiated until the day of surgery. Dipyrone (25 mg/kg; SID) and Tramadol hydrochloride (1mg/kg; BID) for 7-days.

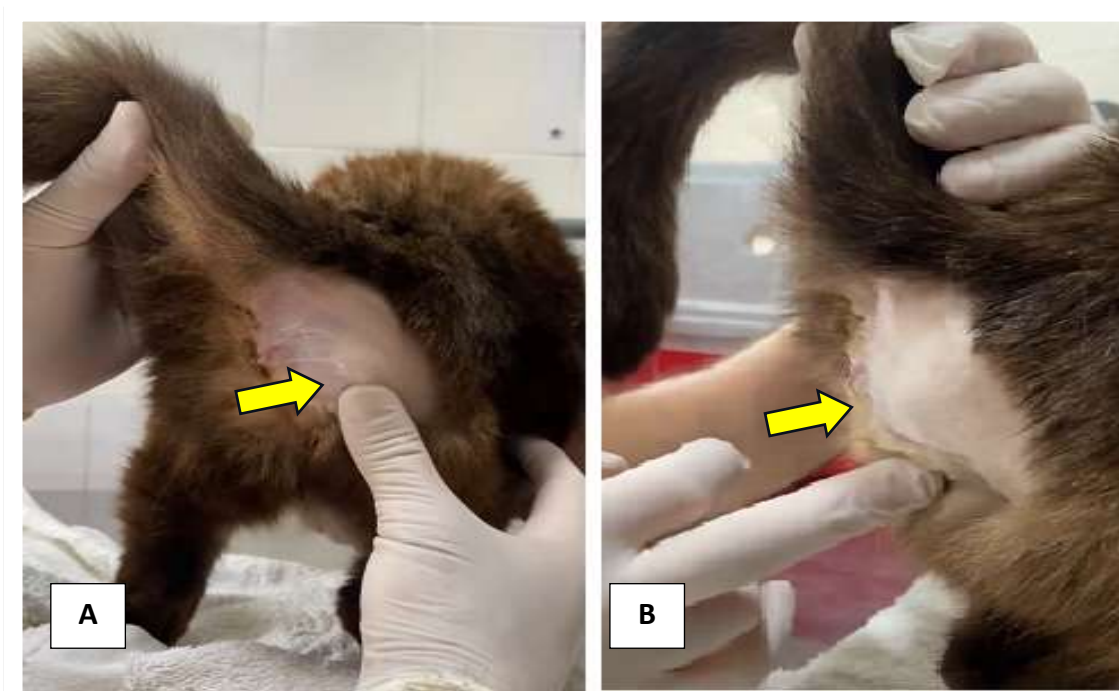


Figure 1. Photographic image of physical palpation exam in a female feline patient, neutered, 13-years old, 3,5 kg, admitted in the “hidden for review” Veterinary Hospital, presenting rigid, irreducible and painful increased volume in right perineal region, besides pain on palpation, with two weeks evolution. A Surgery service “hidden for review”, 2024.



Figure 2. Abdominal ultrasound of right perineal region in a female feline, neutered, 13-years old, 3.5kg, admitted in the “hidden for review” Veterinary Hospital, confirming perineal hernia and showing colon presence (blue arrow), solid fecal content (yellow arrow) and acoustic shadow originating from the content (orange arrow). Font: Imaging service “hidden for review”.

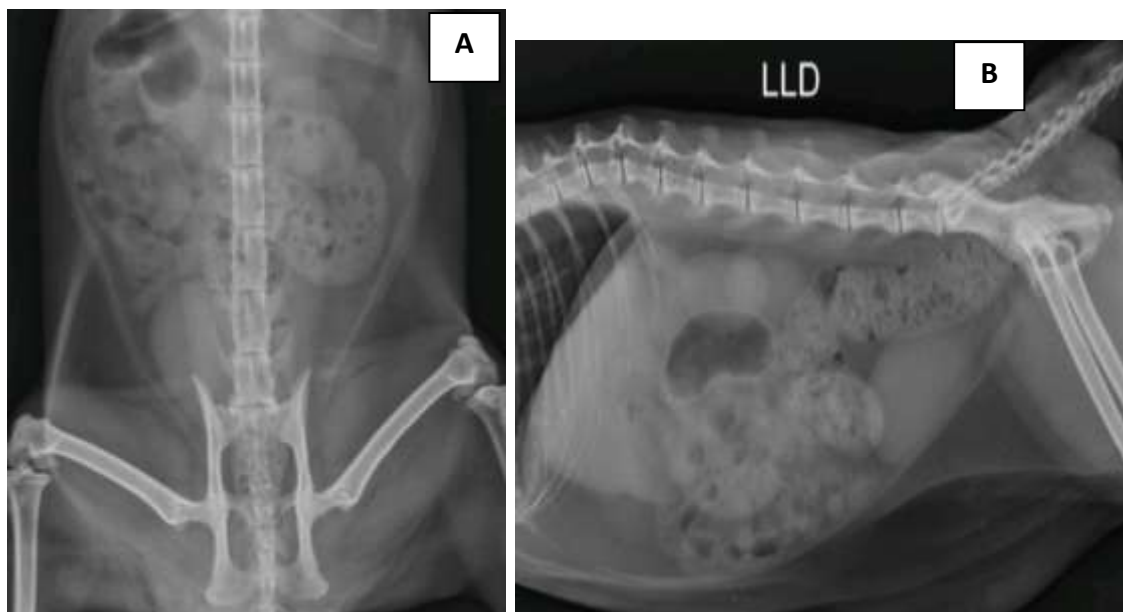


Figure 3. Postoperative abdominal radiography in ventrodorsal (A) and latero lateral (B) position in a female feline patient, mixed-breed, 3.5kg, 13-years old, admitted in the “hidden for review” Veterinary Hospital. Notice absence of abdominal content in the perineal region. And full colon but without megacolon characteristic dilatation. Font: Imaging service “hidden for review”.

Surgical correction was made using classic herniorrhaphy between sphincter ani externus, levator ani and obturator internus muscles. The patient was positioned in sternal decubitus, with a towel under perineal region to maintain it elevated, and a tobacco-pouch suture was performed to close the anus (Fig. 4A) and avoid surgical site contamination. Skin incision was made with n°24 scalpel blade in elliptical shape and right after was possible to visualize hernial sac, which was incised with iris scissors, showing herniated colon with normal macroscopic appearance (Fig. 4B). With help of the surgical assistant index finger the structures were reduced through the muscle defect. Herniorrhaphy was performed with nylon non absorbable thread 2-0 in Sultan pattern, starting in the dorsoventral direction (Fig. 4C) and maintaining the sutures repaired, without tying the knots until the thread passes the most ventral point of the defect. The stitches were tied with a double knot followed by four simple knots in dorsoventral direction. After sutures the procedure was checked to confirm the correct closure of the defect (Fig. 4D), being necessary one more simple interrupted suture between sphincter ani externus and levator ani muscles. Subcutaneous tissue was reduced with

polydioxanone 3-0 absorbable thread in simple continuous suture pattern (Fig. 4E) and the skin synthesis with nylon non absorbable thread 3-0 in Sultan pattern (Fig. 4F).

The prescribed post-surgery medications were Meloxicam (0.05 mg/kg; SID; for three days), Dipyrone (12.5mg/kg; SID; for six days), Laxative (1g/kg; SID; until further recommendation), Giardicid (1mL/2kg; BID; for seven days), cleaning of the surgical wound with saline solution, and antimicrobial ointment twice a day until the stitches were removed.

One week after surgery, the patient presented increased volume, warm and sore in perineal region close to the surgical wound, characterizing abscess, and 3-days after, this abscess rupture expelling a moderate amount of purulent liquid through a cutaneous fistula (Fig 5A). This was resolved by extending the administration time of antibiotics and cleaning of the wound for another 20-days after skin stitches removal. On 45-days post-surgery, the patient didn't show any sign of pain or discomfort and defecated normally without medications (Fig. 5B).

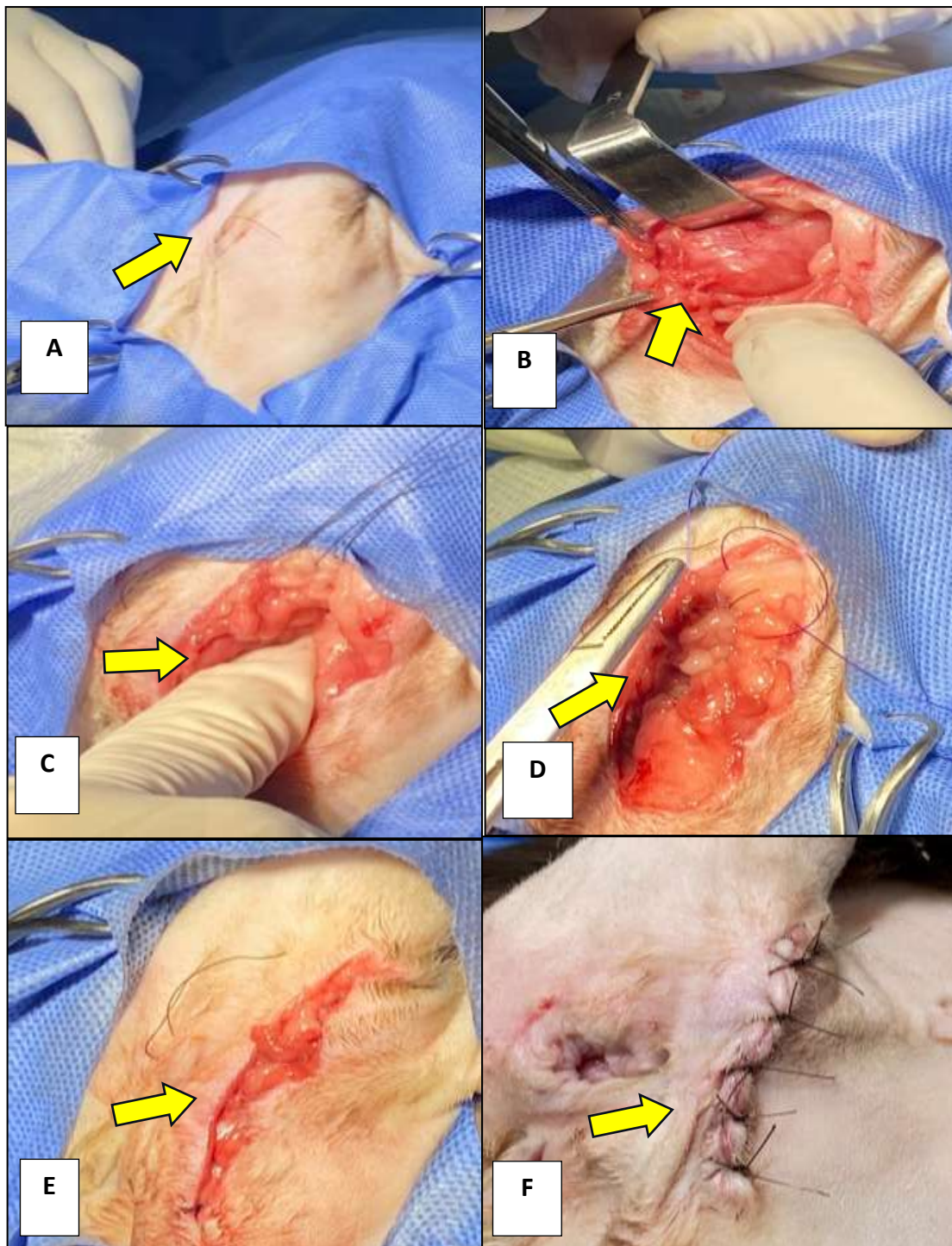


Figure 4. Perineal herniorrhaphy surgery in female feline, mixed-breed, weighing 3,5kg, 13-years old, admitted in the “hidden for review” Veterinary Hospital. A - Patient positioned in sternal decubitus with anal occlusion made with tobacco-pouch suture (yellow arrow). B - Herniated colon with normal macroscopic appearance exposure after opening the hernial sac (yellow arrow). C - Sultan pattern herniorrhaphy in dorsoventral direction reduced with finger help (yellow arrow). D - Last stitch in Sultan pattern herniorrhaphy (yellow arrow). E - Surgical aspect after the subcutaneous synthesis (yellow arrow). F - Surgical aspect after demography (yellow arrow). Font: Surgery service “hidden for review”, 2024.

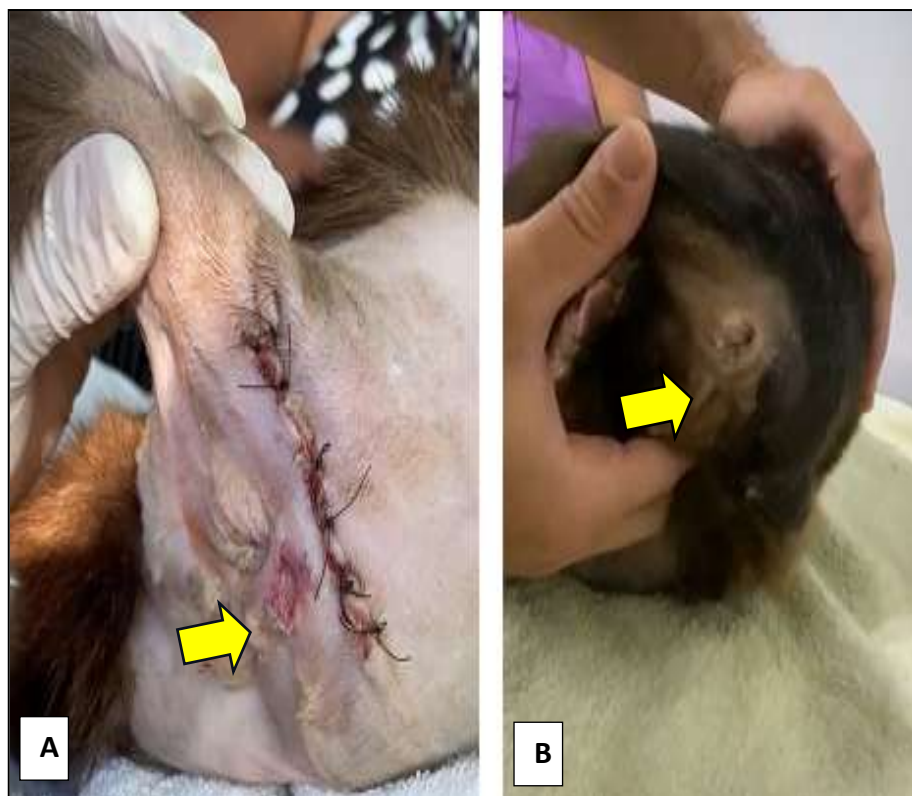


Figure 5. A - Cutaneous fistula 10-days post perineal herniorrhaphy surgery in female feline patient, neutered, 13-years old, 3.5kg, admitted in the “hidden for review” Veterinary Hospital (yellow arrow). B - Surgical wound fully healed and perineal region without volume increase within 45-days post-surgery (yellow arrow). Font: Surgery service “hidden for review”, 2024.

DISCUSSION

Perineal hernia is more often described in male dogs and when it affects felines it is expected that these are neutered males, differently than observed in the patient of the reported case. A study registered that 67% of cats affected by this disease were neutered and with ages between 1 and 18-years old, 10-years average, which corroborates the age of the patient in the present study (Hubers *et al.*, 2022). Although the feline in this study had unilateral perineal hernia (right side), according to the literature the bilateral occurrence is not unusual in felines (Moreira *et al.*, 2020).

Perineal hernia in cats can be correlated to urethrotomy for urinary system alterations, since these patients can present weakening of the pelvic diaphragm, developed after multiple obstructions and effort caused by dysuria (Fossum, 2021). Other possible causes are megacolon, perineal mass, and colitis (Vnuk *et*

al., 2005). It is worth highlighting that the patient in this report did not present urinary alterations or megacolon. However, it is believed that the fact the patient is semi-domiciled and the possibility that she suffered some kind of trauma predisposed the perineal hernia occurrence.

The most observed clinical signs in patients with perineal hernia are tenesmus, constipation and increase of perineal volume, which were present in the reported patient (Bernicker *et al.*, 2021). The diagnosis is initiated with physical exam, palpation of muscle defect and the volume increase, being possible sometimes reintroduce it manually, which was not possible in the reported patient. Radiography and ultrasound were of great value in cases like that, as observed in this paper, making possible the evaluation of the hernia content, and confirming the suspected diagnosis, discarding possible differential diagnosis as neoformations (Mann e Souza, 2023).

Osmotic and emollient laxatives in the post-surgical are recommended in the intention to facilitate the gastrointestinal transit, avoiding pushing when defecating, which can predispose the hernia recurrence (Fossum, 2021). Many complications are observed in the post-surgical of perineal hernia such as suture dehiscence, fecal or urinary incontinence, local infection, lesion on pudendal or sciatic nerve, suture penetration into rectal lumen or anal sacs and the hernia recurrence, are usually described in the literature. Fecal incontinence, permanent or temporary, happens approximately in 10% of the cases, may occur due to direct lesion in sphincter ani externus muscle during the surgical dissection, or lesion in pudendal or rectal caudal nerve (Mann and Souza, 2023). Lesion in the sciatic nerve happens in less than 5%, and it is correlated to the suture passage around sacrotuberous ligament, and the positioning of the animal in the surgical table, that can cause positional sciatic neuropraxia due to excessive ischemia or tension (Atthiesen, 1989).

In the present report the observed complication was a subcutaneous abscess, being dehiscence or abscess formation and wound infection prevalent problems occurring between 6.4 and 26% of the cases, and usually being related to fecal contamination for its proximity to the anus (Moreira *et al.*, 2020). *Escherichia coli* is the main agent found in perineal wound infections, and a broad-spectrum antibiotic should be administered, such as the one recommended to the patient in the present study. The abscess formation and later cutaneous fistula probably originated because it is a contaminated area, near to the anal region and in contact with feces. That said, it highlighted the importance of antibiotics prescription and care with the wound in the post-surgical.

The golden pattern therapy is the surgical correction of the muscle defect by classical herniorrhaphy with sutures or muscle flap, as the elevation of obturator internus and the translocation of the semitendinosus muscle, besides synthetic materials as polypropylene surgical mesh (Bernicker *et al.*, 2021). The recurrence rates vary depending on the surgeon's

experience, hernia content, disease evolution time and the chosen technique to the correction. The most used technique is the classic, also known as anatomical repositioning, and the transposition of the obturator internus muscle technique. Transposition of the obturator internus muscle technique, despite greater difficulty execution, results in less anal deformation and creates a ventral muscular "flap", presenting less tensions on the sutures. The advantages of classical technique are the easier execution and less surgical trauma. Recurrence rates in the transposition of the obturator internus technique are considered low, about 5%, in comparison with the classical technique that presented about 46% of recurrence. However, besides the rates shown in the literature being considerably higher, the anatomical repositioning technique has easier execution and causes less trauma in the muscle tissues, being the most usually chosen (Moreira *et al.*, 2020). The technique of classical herniorrhaphy with sutures was the one chosen in this case, being considered simple, fast, and little traumatic, different from the other possible correction techniques, besides being well succeeded, avoiding the recurrence of the condition and providing comfort and well-being to the patient.

CONCLUSION

Perineal hernia despite being less common in the feline species, especially related to neutered female animals, should be considered a differential diagnosis in any patients with tenesmus, pain and perineal volume increase regardless of the sex. It is suggested that besides perineal hernias being unusual in females, especially neutered, this condition should be included as a differential diagnosis in animals with perineal volume increase, regardless of the sex. Detailed physical evaluation and imaging exams are essential to the correct diagnosis conclusion. The affected patients should be submitted to perineal herniorrhaphy, and in the present report the classical herniorrhaphy technique with sutures was considered simple, fast, low trauma and with good success rates, avoiding the recurrence of the condition and providing comfort and well-being to the patient.

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