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CONGENITAL PHIMOSIS IN A DOG: CASE REPORT

FIMOSE CONGÊNITA EM CÃO: RELATO DE CASO

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ABSTRACT

Phimosis is a rare condition in dogs, characterized by the inability to retract the foreskin, resulting in discomfort for affected animals. This disease can be congenital or acquired, secondary to inflammatory and neoplastic processes, as well as to laceration and scarring. The most common complication of phimosis is balanoposthitis. The objective was to report a case of phimosis in a puppy treated at the Uningá veterinary clinic. The two-month-old, mixed-breed dog presented increased preputial volume, pollakiuria, dysuria, and pain when having its foreskin manipulated. No alterations were evidenced by hematological exams. The animal was subjected to ultrasound examination for other possible causes of phimosis, such as neoplasms, to be ruled out. The patient was referred for postioplasty and elective orchiectomy procedures. We conclude that phimosis in dogs is a rare condition, but it presents a good prognosis in the short and medium terms, as long as the surgical intervention is performed correctly.

Keywords: Balanoposthitis. Foreskin. Postioplasty.

RESUMO

A fimose é uma condição rara em cães, caracterizando-se pela inabilidade de exteriorização do pênis do interior do prepúcio, resultando em desconforto para os animais acometidos. Esta enfermidade pode ser congênita ou adquirida, secundária a processos inflamatórios, neoplásicos, lacerações e cicatrizações. A complicação mais comum da fimose é a balanopostite. Objetivou-se relatar o caso de fimose em um filhote canino, atendido na clínica veterinária Uningá. O cão de dois meses de idade, sem raça definida, apresentava aumento de volume prepucial, polaciúria, disúria e dor na manipulação do prepúcio. Não foram evidenciadas alterações nos exames hematológicos. O animal em questão foi submetido à exame ultrassonográfico para descartar outras possíveis causas de fimose como neoplasias, por exemplo. O paciente foi encaminhado para procedimento de postioplastia e orquiectomia eletiva. Concluímos que a fimose em cães é uma condição rara, porém apresenta bom prognóstico a curto e médio prazo, desde que a intervenção cirúrgica seja realizada da maneira correta.

Palavras-chave: Balanopostite. Postioplastia. Prepúcio.

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INTRODUCTION

Phimosis is a rare condition in dogs, characterized by the inability to retract the foreskin (SILVA, 2018). It may have a congenital or acquired origin, secondary to inflammatory and neoplastic, processes, as well as to laceration and scarring. In young animals, one sucking the foreskin of another, or the mother licking it, can favor the development of phimosis (MACPHAIL, 2014; LOPES; VOLPATO, 2015).

Affected animals may have a small or non-existent preputial opening. There may be signs of old preputial trauma, and purulent or hemorrhagic preputial discharge is not uncommon. The foreskin may be distended, inflamed, and infected, with the possibility of urine retention or dripping. A common complication is secondary infection caused by irritation and accumulation of urine in the foreskin, which can progress to balanoposthitis. In adult animals with balanoposthitis, the inability to have natural coverage may be associated with pain during copulation, resulting in reduced libido (LOPES; VOLPATO, 2015).

The diagnosis of phimosis is clinical, based on anamnesis and physical examination findings showing that the penis does not protrude through the preputial orifice (FREITAS, 2019). In adults, observing the animal during sexual arousal may be necessary before confirming the diagnosis (LOPES; VOLPATO, 2015). Diagnostic imaging is only necessary in cases in which there is a suspicion of concomitant affections, such as neoplasms or secondary affections of the genitourinary tract (MACPHAIL, 2014). Preputial cytology may suggest inflammation, infection, and neoplasia. Bacterial culture may be necessary in cases of infection (WEID *et al*., 2006). Differential diagnosis includes hermaphroditism, persistent frenulum, and penile hypoplasia (HAFEZ, 1995; BOOTHE, 1998).

The treatment of phimosis varies according to its origin and can be clinical or surgical. The clinical treatment of phimosis is indicated in cases of infections or inflammation, and consists of using warm local compresses that help with the natural anti-inflammatory function, antimicrobial therapy, anti-inflammatory drugs, and using a urethral probe. Surgical treatment, by means of postioplasty, is indicated in animals with congenital anomalies, trauma or neoplasms (FREITAS *et al*., 2019). However, in cases of acquired phimosis caused by neoplasms, surgical correction can be hampered by possible tumor recurrence, worsening the prognosis (BOOTHE, 1998).

The objective of surgery is to enlarge the preputial orifice, allowing the penis to move into and out of the foreskin (FREITAS *et al*., 2019). The current most effective techniques consist of increasing the circumferential diameter of the preputial ostium, through a wedge-shaped or circular opening. In both techniques, scarring stenosis is the biggest postoperative inconvenience (BOJHAB, 1996; BOOTHE, 1998; FOSSUM, 2002). During surgery, it is advised to create a preputial orifice larger than normal, due to fibrosis and scar retraction that occurs after surgery (BOOTHE, 1998).

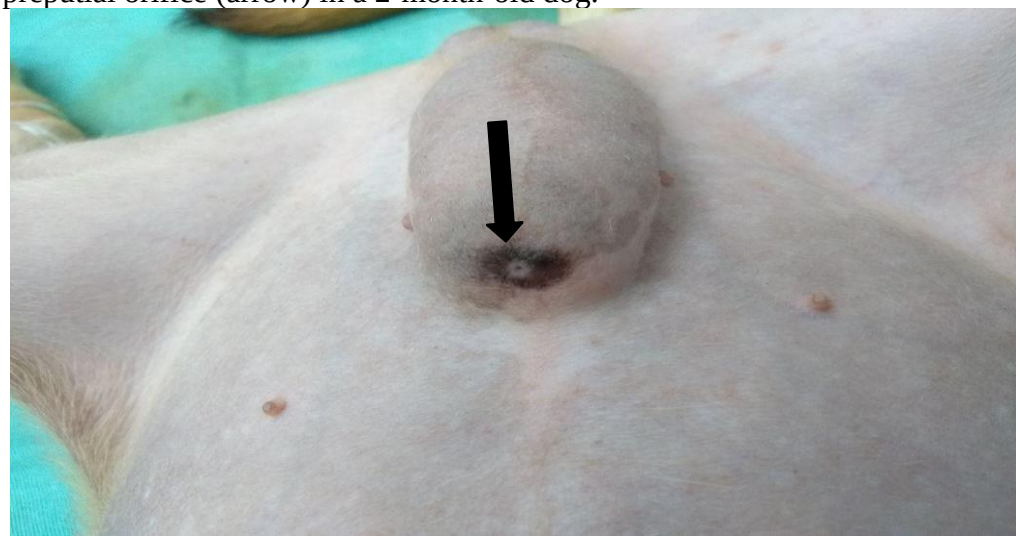
The prognosis after corrective surgical procedure for congenital phimosis is good. There may be a need for new surgical intervention over time, after the patient has reached its maximum growth, to further expand the preputial orifice. Thus, the objective was to report a case of phimosis by congenital stenosis of the preputial ostium in a two-month-old, mixed-breed dog, which showed good recovery after circumferential postioplasty.

CASE REPORT

A two-month-old, mixed breed, male dog with a history of increased preputial volume, dysuria and pollakiuria since birth was treated at the Veterinary Clinic of Ingá University Centre, in Maringa. The animal did not show any change in its physiological parameters. Specific examination detected pain during preputial manipulation, constant dripping of urine through a tiny preputial orifice, and volume increase with fluctuating consistency in the preputial region (Figure 1). Due to the suspicion of congenital phimosis, the animal was subjected to ultrasonography, which showed

bladder repletion and made it possible to rule out other alterations secondary to the congenital defect.

Figure 1 – Photographic image of increased preputial volume and small preputial orifice (arrow) in a 2-month-old dog.



Source: Service provided by the surgical clinic of the veterinary clinic (2018).

Blood count and serum analysis of the alanine aminotransferase (ALT) and creatinine enzymes were performed, which resulted in values within the normal range for the species.

The patient was referred for corrective circumferential postioplasty procedure. The animal was subjected to a four-hour food and water fast. Trichotomy of the ventral abdominal region was performed immediately before surgery. The animal underwent inhalation anesthesia and was put in the supine position. Prior and definitive antisepsis was performed with 4% chlorhexidine and 70% alcohol.

A circular incision of 1cm in diameter and complete thickness (from the skin to the preputial mucosa) was made with a scalpel and a #15 blade around the small preputial ostium. Bleeding was controlled by digital pressure, and both the preputial mucosa and the penis were inspected in order to identify possible concomitant changes, such as hypospadias and persistent frenulum. Nothing was observed, apart from mucosal irritation, possibly caused by the accumulation of urine.

Thus, the urethra was catheterized with a #6 urethral probe. The skin was sutured to the preputial mucosa at 360º with a simple interrupted stitch, using 4-0 monofilament absorbable synthetic thread (Figure 2). Orchiectomy was performed concurrently.

The animal was discharged after full anesthetic recovery; Ranitidine (2.2mg/kg, BID, 10 days), Cephalexin (30mg/kg, BID, 10 days), Dipyrone (25mg, kg, BID, 3 days), and Meloxicam (0.1mg/kg, SID, 3 days) were prescribed. Use of a protective collar (Elizabethan), cleaning of the surgical wound with a daily sterile 0.9% saline solution, and rest were recommended.

The patient returned 10 days after the operation and presented good general condition, without any signs of bleeding, wound dehiscence, pain, urinary incontinence or urethral stenosis (Figure 3).

Thirty days after surgery, the animal was in excellent clinical condition, without any sign of obstruction, pain or urinary dripping. However, during the physical examination, local stenosis can be observed, compared to the initial postoperative days. Because the patient is still developing, its guardian was informed about the possibility of progress of the stenosis of the preputial ostium created and about a possible surgery in the future if the stenosis results in interference with the urination ability.

Figure 2 – Transoperative photographic image of the two-month-old dog, after circumferential postioplasty.

Source: Service provided by the surgical clinic of the veterinary clinic (2018).

Figure 3 – Postoperative photographic image of the 2-month-old dog, 10 days after postioplasty and orchiectomy.

Source: Service provided by the surgical clinic of the veterinary clinic (2018).

DISCUSSION

Phimosis is a disease of the reproductive tract in males, described by the inability to retract the foreskin as a result of a small or non-existent preputial opening (VOLPATO, 2010). As mentioned by Bastos *et al.* (2020), because it is a rare condition in small-animal clinics and causes great discomfort to affected animals, it is important to report this case of phimosis in a two-month-old dog, in order to contribute to the literature.

Based on the animal's age and on the ultrasound examination without alterations that could lead to the disease, it was possible to classify the phimosis in this case as congenital, which is identified in neonates or pediatric patients (MACPHAIL, 2014).

Acquired phimosis can be identified in animals of any age, being secondary to trauma, neoplasms or preputial scarring (MACPHAIL, 2014). Therefore, without a history of previous trauma or presence of any characteristic lesion, hematuria or scars, the hypothesis of acquired phimosis was rejected.

Clinical signs are related to the etiology and size of the preputial orifice (BOOTHE, 2003). In this case, the small orifice resulted in an increase in volume of fluctuating consistency in the foreskin, pain during manipulation, and constant dripping of urine.

According to Freitas (2019), the diagnosis of phimosis is clinical, must be performed through anamnesis, and physical examination findings. MacPhail (2014) adds that, when necessary, complementary tests such as cytology or bacterial culture can be used to assist in the diagnosis. The abovementioned clinical signs reported by the animal's guardian and the alterations observed in the physical examination, including the presence of a small preputial orifice that prevented penile protrusion, were sufficient to establish the diagnosis of phimosis.

The treatment and the veterinarian's conduct depend on the etiology of the disease. When phimosis is caused by an inflammatory or infectious disease, the clinical treatment of the cause may suffice. When it is related to some serious deformation, surgical treatment is recommended (MACPHAIL, 2014). It is noteworthy that in cases of congenital phimosis, the tutor is recommended to castrate the animal in order to prevent its offspring from having the disease (VOLPATO, 2010). In the present report, the congenital phimosis caused by severe stenosis of the preputial orifice could only be corrected through surgical procedure, with circumferential postioplasty being indicated.

The opening of the preputial orifice with a circular incision of 1cm across the skin and mucosa around the ostium allowed the immediate exposure of the penis after the procedure, enabling adequate urination. The choice of the size of the tissue to be removed must be made considering the severity of the condition and be sufficient for the complete protrusion of the penis (MACPHAIL, 2014).

To bring the edge of the skin closer to the preputial mucosa, MacPhail (2014) recommends the use of simple interrupted suture with a small-caliber absorbable monofilament synthetic thread (4-0 to 6-0). In this procedure, the surgical technique, the suture and the thread used were in accordance with what the literature proposes. Synthetic monofilament thread presents lower rates of bacterial adhesion and fluid absorption compared to multifilament thread (FOSSUM, 2002). The choice of the absorbable thread was due to the possible difficulty in removing it after the proliferative phase of healing, since tissue contraction is common, and some stitches may invaginate internally to the foreskin. Therefore, this material was chosen for the technique to be performed.

In addition to postioplasty, orchiectomy was performed in order to prevent reproduction, since phimosis is hereditary and more prevalent in some breeds, although the dog in this report does not have a defined breed (LOPES; VOLPATO, 2015).

The prognosis of postioplasty is good and may vary if the incision is not made in an adequate size (MACPHAIL, 2014). Boothe (2003) adds that the creation of an orifice larger than

what is indicated may be acceptable, since fibrosis is a common and harmful condition after surgery.

The medication protocol indicated in the post-surgical period aimed to eliminate the chances of bacterial infection using cephalexin, due to the surgical manipulation of the region, and because it is an area that comes in contact with urine, secretions and dirt. The use of a non-steroidal anti-inflammatory drug (meloxicam) helped reduce local inflammation, since the preputial mucosa was irritated due to the accumulation of urine. Dipyrone was prescribed to control postoperative pain because it works favorably in cases of moderate pain, and ranitidine, a gastric protector, to prevent possible gastritis caused by drugs (FOSSUM, 2014).

Cases in which a new surgical intervention is necessary in the presence of congenital phimosis are not rare. Reintervention must be performed when the patient reaches full growth, in order to enlarge the preputial orifice, preventing the disease from recurring (BOOTHE, 2003). When the patient returned to the clinic 30 days after the surgical correction, it was possible to observe greater stenosis compared to the first days. The need for a second surgery can be considered when the patient reaches the ideal age.

CONCLUSION

It can be concluded, with the report in question, that surgery is a good therapeutic option for congenital phimosis. However, because the patient is very young and growing exponentially, a long-term prognosis is rendered restricted, due to the chances of stenosis of the preputial ostium, and a new surgical intervention may be necessary in the future.

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