

Use of a Foley Catheter for Anal Sacculectomy in Dogs

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Abstract : Eight dogs were presented with anal sacculitis with purulent exudates and/or open in the right or left anal sac. Patient dogs, ranging in size from 3-to-8 kg, were treated with closed anal sacculectomies, in which the balloon of a Foley catheter (No. 6, 1.5 ml) was used to facilitate surgical dissection of the sac. In all cases, the Foley catheter successfully distended the anal sac during its removal. Clinical signs associated with the diseased anal sac were abated in the all dogs for a follow-up period of one-to-three months. Anal sacculectomy is a good therapeutic option for cases of chronic anal sacculectomy or impaction. The use of a small Foley catheter to distend the anal sacs during surgery was easy, inexpensive, and successful.

Key words : Foley catheter, anal sacculectomy, dogs.

Introduction

Anal-sac disorders are common in dogs (10-12,14); prevalence's range from 2 to 12% (2,3). Despite the frequency with which veterinarians are confronted with anal-sac problems, the diagnosis and treatment of anal-sac disease continues to be confusing and ill-defined (12). This confusion stems from the lack of knowledge about the appearance and contents of anal sacs (12). Anal-sac diseases can be treated by emptying the anal sacs, hot pack, local instillation of antibiotics, open drainage, and administering systemic antibiotics (6,14). Surgical excision of the anal sacs often is required to treat recurrent or persistent anal sac disease.

A variety of procedures have been described for the excision of anal sacs in the dog (6). These include open and closed techniques. The open technique, in which the skin and anal sac are incised prior to the sac's removal, may result in contamination of the surrounding subcutaneous tissue and fecal incontinence due to damage to the anal sphincter (7). In the closed technique, the anal sac is distended with a material which will demarcate it from the surrounding subcutaneous tissues. This facilitates dissection and minimizes the risk of damaging important structures such as the external anal sphincters. Thread, paraffin wax, plaster of Paris, silicone sealant, dental acrylic, anal sac gel, synthetic resin, India ink, and distilled water have been used for packing the anal sacs (1,6,13). The disadvantages of these packing materials include time needed for packing or hardening of the material (thread, paraffin wax, plaster of Paris, silicone sealant), potential epidermal and subcutaneous irritation from the heat during hard-

ening (dental acrylic), contamination of the surgical site with the material (India ink, water) if the sac is ruptured during surgery (1).

These cases describe the use of the Foley catheter for the anal sac removal in dogs with anal sacculitis.

Case presentation

Patients

Eight dogs, ranging in size from 3-to-8 kg, two to four-year-old, were presented with anal sacculitis with purulent exudates and/or open in the right or left anal sac. According to owners, dogs had several episodes of anal sacculitis and abscessation for a several months, which responded to anal sac expression.

Anal sacs were palpated for turgidity then expressed onto a swab, where color and consistency were noted.

Surgical procedures

Dogs were premedicated with a subcutaneous injection of atropine sulfate (0.02 mg/kg, atropine[®], Kwang-Myung Phram. Co., Korea), 20 minutes before the operation and dogs were premedicated with an intravenous induction of xylazine HCl (2 mg/kg, Rompun[®], Bayer Co., Korea). Anesthesia was established with an intravenous injection of ketamine HCl (10 mg/kg, ketamine[®], Yuhan Pharm. Co., Korea), following inhalation of O₂ and 1.5 to 2.5% enflurane (Gerolan[®], Choongwae Pharm. Co., Korea). Anesthetized dogs were placed in sternal recumbency.

The anus is packed with surgical gauze or drape. Perianal hair is clipped, and the area is prepared aseptically for surgery. A French Foley catheter (Sewon Co., No. 6, Fig 1) is inserted into the duct of the anal sac until the entire 1.5 ml

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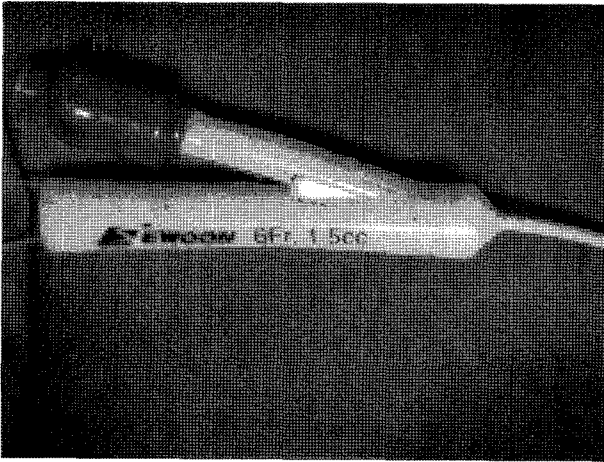


Fig 1. A Foley catheter (No. 6, 1.5 ml) for anal saccullectomy in dogs.

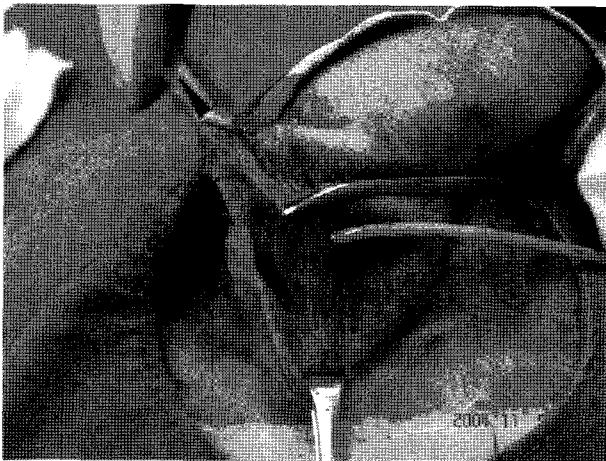


Fig 2. Photograph of the dissection in the surrounding subcutaneous tissues and external anal sphincter from the distended anal sac.

balloon is within the sac. The balloon is inflated with sterile saline to the estimated size of the anal sac. A vertical, linear incision is made in the skin over the distended sac, approximately 1-to-2 cm lateral to the anus. The muscle fibers of the external anal sphincter are dissected from the sac. Once the sac is exteriorized, the balloon of the Foley catheter is deflated and the catheter is removed. The anal sac is excised by ligating and transecting the duct with 3-0 absorbable, monofilament suture. The excision site is lavaged with sterile saline. Closure is accomplished by apposing the subcutaneous tissue with 3-0 absorbable, monofilament suture and 3-0 nylon suture in the skin.

Post-operative care

Dogs were given cephaloxin® (35 mg/kg, per os, bid, for 7 days) to treat the cellulites and swelling in the perianal area prior to surgery. The inflammation subsided after one week of therapy; however, a cutaneous draining tract remained

over the sac. Cephaloxin® and warm compresses were continued for one week after surgical procedure.

Discussion

Knowledge about the physiological role of the anal sacs is still confusing. The color and consistency of the anal sac contents are variable in healthy dogs and there are no pathognomonic signs of anal sac impaction or sacculitis. The wide variation in macroscopic detail of anal sac secretions may give rise to misinterpretation and thus overdiagnosis of sacculitis. Other diseases such as vaginitis, flea allergy, atopy, proctitis, parasites and perianal fistulae can lead to similar signs and must be eliminated from the differential diagnosis before the anal sacs are incited as the cause of the signs. Further research is necessary on the morphological, physical and biochemical aspects of the anal sacs and their secretions to define more precise criteria for the diagnosis of impaction and sacculitis. It is imperative that controlled therapeutic trials should be performed, and such studies are indispensable for the rational therapy of anal sac disease (14).

Anal-sac secretion is composed of desquamated keratinocytes, of material from sebaceous and apocrine glands, bacteria and yeasts (10-12). The color of the secretion from normal dogs varies from yellow to grey to brown, and the consistency of the secretion from normal dogs can be liquid to viscid to pasty, and may be granular or flecked with solid material (8,12,14). The bacteria and yeasts cultured from diseased anal sacs are the same as those cultured from normal sacs: staphylococci, streptococci, micrococci, *Clostridium* spp., *Bacillus* spp., *Escherichia coli*, *Proteus* spp., *Pseudomonas* spp., and *Malassezia* (4,8,10,12).

Robson *et al.*, (9) reported that the physical characteristics of the exudates and sac varied, though 31/34 sacs were empty or soft, 22/27 exudates were light or dark brown and 19/27 exudates were a thin liquid in 17 clinically normal dogs. Total leukocyte, keratinocyte and bacilli counts were extremely variable. Yeasts were present in 26/208 microscopic fields examined cytologically. Only 5/208 fields showed numerous cocci. A single instance of intracellular bacteria and a single erythrocyte were noted following examination of all fields. The characteristics of normal anal sacs and their exudates varied but greater than 70% showed similar features. Exudates cytology was highly variable, though yeasts were uncommon and intracellular cocci and erythrocytes extremely rare.

Chronic anal sac infection or impaction can be a frustrating problem for both dog owner and veterinarian. Anal saccullectomy may be used to resolve clinical signs when medical management fails (1). Dogs were treated with closed anal saccullectomies, in which the balloon of a Foley catheter was used to facilitate surgical dissection of anal sacs. In all dogs, the Foley catheter successfully distended the anal sac during its removal.

Development of postoperative complications was signifi-

cantly associated with surgical technique. Hill and Smeak (5) suggest that anal sacculectomy is a safe and effective treatment for non-neoplastic anal sac disease in dogs and is associated with a low rate of complications. The standard open technique was associated with the greatest number of complications, whereas complication rates for the closed and modified open techniques were similar to each other.

Weight of the dog, type of anal sac disease, age at the time of surgery, and whether the wound was closed surgically were not significantly associated with whether dogs developed postoperative complications. We agreed with Downs and Stampley (1) that anal sacculectomy is a good therapeutic option for cases of chronic anal sacculectomy or impaction. The use of a small Foley catheter to distend the anal sacs during surgery was easy, inexpensive, and successful.

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개에서 항문낭 절제를 위한 폴리카테터의 이용

한태성 · 김중현 · 조기래 · 이해윤 · 김근형 · 최석화¹

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요약 : 개의 오른쪽 또는 왼쪽 항문낭에 화농성 삼출물이 있거나 항문낭이 개방된 8마리의 개를 대상으로 항문낭 적출술을 하였다. 환자의 체중은 3-8 kg이며, 항문낭을 쉽게 절제하기 위하여 폴리카테터(1.5 ml, 6호)를 이용하여 폐쇄법으로 항문 적출술을 하였다. 항문낭 적출술을 하는 동안 모든 환자에서 폴리카테터를 팽창하여 항문낭을 쉽게 식별할 수 있었다. 항문낭 적출술을 실시 한 환자들을 대상으로 1-3개월 동안 임상증상을 추적하였다. 항문낭 적출술이 만성 항문낭염 또는 항문 질환에 좋은 치료법이었다. 폴리카테터의 이용은 항문낭의 적출 시 항문낭을 쉽게 구별할 수 있었고 경제적이었다.

주요어 : 폴리카테터, 항문절제술, 개.