

Anal sacs: an important source of canine clinical information

Dr Aine Seavers MVB MRCVS discusses how anal sacs, from the perspective of canine medicine, can offer clinical information to help treat many conditions

Please view the video on the *Veterinary Ireland Journal* website (see link at Figure 1), if possible, in conjunction with the history below and ask yourself: if you could only have done one intervention or test on this patient, what would your first choice have been?

HISTORY

The patient in question is a female Labrador, Luna, who was purchased at eight weeks old. For the next eight months of her young life, she was locked in a dog run, out of sight, at the side of a house.

She received no intellectual stimulation or human interaction, other than the food and water being placed in the run.

Hence, she developed zero communication skills. She was subsequently rescued by my clients at around 11 months of age. The dog was so neglected that she even lacked the rounded features of neoteny usually associated with the Labrador breed. Instead, she had a long rectangular boxed head/skull appearance. Anecdotally, I have found that box-headed phenotype to be an early warning of behaviour issues and of an aggressive temperament.

The dog was highly unpredictable, one minute happy and playful, the next airborne and snappy at the face of anyone near her. Restraint was difficult to do safely for all, the dog hated any control and we all hated seeing her distress, so we worked on as much hands-off training and veterinary care as possible.

Her new owners were amazing; they worked so hard and achieved miracles with this dog. Part of that dedication was taking her to a specialist behavioural practice to address the complete loss of early learning.

Medications

Clomipramine: highest dose as prescribed by specialist: a dose to which she has responded well and been left on.
 Trazadone: she had an adverse reaction to Trazadone and was either 'stoned' or 'manic' on it, so I had that drug stopped. This allowed her to settle down and to begin to learn appropriate ways to interact with her humans.

Complaint

For the first three months in her new home, all was going well. Suddenly, out of the blue, she began to madly hump the male owner 24/7 to such an extent that neither the dog nor the owners had slept for three days before her visit to my clinic. The advice from the behavioural specialist to the owner had been to add yet another behavioural-modifying medication to her daily drug regime and instigate a brand-new series of training steps for the dog.
 Before starting any of the above new changes, the owners



Figure 1.
 See video at www.veterinaryirelandjournal.com/dogvid.

rang and spoke with me. I asked them to postpone doing anything until I had the opportunity to carry out one intervention with the dog. I also asked for a home video of the offending issue.

WHAT WOULD YOUR PLAN OF ACTION HAVE BEEN?

My action plan

The dog came into the clinic. She was fed a biscuit while on the weighing scales. On the consult table, she was fed another biscuit, then super quickly, a muzzle was applied so I could safely empty two huge, hot anal sacs. The muzzle was removed, another biscuit was given, and back out she went to her car.

The dog went home and went straight to her own bed. Her female owner reported that the dog slept for 14 hours, woke up, had some food, went back to bed on the sofa and slept right through until the next morning. When the male



Luna being given slow belly rubs.

owner appeared, the dog acted totally normally toward him. Several years later, and there has not been a recurrence. For the price of a consultation, and with no drugs, the problem was fixed.

TAKE-HOME MESSAGE

The take-home message: dogs are more than the sum of their primary condition. A behaviour concern dog, who suddenly exhibits a new odd behaviour, is not necessarily behaving badly, but rather may be signalling a new medical issue. The art of vet medicine is not about all the things we can do, but about doing only what we should or really need to do for the individual animal presenting with any given condition.

ANAL SACS

Anal sacs, from a canine medicine point of view, are an amazing and fascinating part of the body that offer a rich source of clinical information to help treat so many conditions. I have had dogs with behavioural disorders, 'startle' behaviour, alleged 'seizures', lameness and paralysis signs, aggression to people, manic mounting of another dog and food allergy dermatology patterns, all for which the cause and/or the evidence lay in the anal sacs.

HUMPING

With any humping, you have to empty the anal sacs first, otherwise, missing this link leaves the client unimpressed when they seek another opinion from a second vet who then fixes the issue in three minutes flat. All vets should first check the anal sacs for all humping dogs, the anal sac issue is either then resolved or ruled out as the concern.

When another dog, desexed or otherwise, suddenly begins to hump its canine mate - regardless of the gender of either dog - I will inspect both dogs' anal sacs. Often, the problem is the anal sacs of the humped dog.

In relation to dogs humping inanimate objects, while I do initially empty their anal sacs, most times it is not the sacs that are at fault. Dachshunds, in particular, are a breed that like to hump anything shorter than themselves, be it a shoe, another dachshund, a bed edge or a toy. I leave them to it.

If the dog humps a human, in addition to doing the dog's sacs, I have the human have their doctor do a full check-up of their own blood pressure, glucose, etc. Dogs live in a world of scent and are capable of detecting conditions such as hypoglycaemia, cancer or epilepsy issues in humans. The



An exhausted Luna.

Luna sleeping.



owner above was checked out and had no issues. However, another male owner was checked out on my recommendation when his Basenji developed strange behavioural issues relating only to the male owner. The client turned out to have the earliest ever detected start of a haematological neoplasia that normally requires strong chemotherapy and has poor survival. Because we discovered it so early a tolerable course of chemo has given the owner 17 years' remission.

Never ignore when 'sane' dogs suddenly exhibit 'manic' behaviour.

WHY DO ANAL SACS MAKE DOGS HUMPH?

I don't have the definitive answer. I think the anal sac contents or a particular bacterium must have an oestrogen-like smell. In one study, 30 per cent of bitches had anal sacculitis issues one to three weeks post oestrus which is interesting in itself. If the bitch is entire and there is a temporal relationship to issues post-oestrus, I take the anal sac issue as another sign to spay the dog,

ANAL SACS AND PRURITIC DOGS

Every single itchy dog, from foot chewer to ear rubber, gets their anal sacs emptied and assessed by me. The additional specific behaviour pattern – where the dog nibbles, then does a one-to-15 second hold in a fake bite motion, rather than a mainly licking-chewing – raises the index of suspicion that we should be looking at anal sacs.

A series of papers by Clive Halnan in the *Journal of Small Animal Practice* from several years ago linked experimental simulation of blocking the anal sac ducts with dermatological

symptoms which subsequently resolved when the simulated impaction was resolved.

A previous paper by Halnan, in the same journal, linked blocked anal sac ducts in dogs with symptoms in ears, facial skin and feet, which then resolved when the anal sac impaction resolved. Some of those cases in the first paper, we would now classify as having atopy, but a portion would stand alone in an impaction-pruritus pairing. Halnan's second (direct research-based) paper, wherein they ligated the ducts and/or inoculated with culprit bacteria, produced results that supported the clinical observations in the previous paper.

DIET

If the clinical dermatology signs are arising from food intolerance/allergy, you will often see issues in the ear/s but also in the anal sacs.

In Halnan's paper, over 50 per cent of the dogs had no biscuit in their diet, just all meat which produced a strap-like faeces not conducive to emptying anal sacs. I address my anal sac cases by improving their basic diet and initially upping the fibre content of the diet.

Equally, I am more than happy to move to dry Hills Z/D Ultra Diet food to reduce the allergen load for these patients to decrease the degree and frequency of their clinical anal sac sign expression.

In situations where dogs scoot regularly for no apparent reason (i.e. no impaction, no tapeworms, no vulvo vaginitis, no hessian beds) then the consistency, smell, and colour of the anal sac secretions can be helpful in flushing out the trigger – most often dietary indiscretion wherein either the owner is not feeding the correct diet or is adding to that diet some highly allergenic or irritant foods-i.e., hot curries, takeaway fast foods etc.

EXPRESSION TIPS

Dr Seavers offers some advice derived from her own clinical experience

I have 'at risk' breeds (spaniels as part of their immune disorders, Basenji, German Shepherds on the wrong diet, smaller 'teeth-on-feet' breeds, who need regular emptying of sacs) that really benefit from having their owners 'heat-pack' the dog's anal area two to three days before a visit. This makes many sacs so much easier to empty, which makes it less painful for the dog to have done.

I use a plenty of lubrication to do it and, if there is any hair there, I will shave a narrow area off first - catching the hairs with the clippers as you go in makes them arc up.

I almost never let owners hold them for this procedure; the owner's body language is all wrong and tense and can cause the dogs to panic. Almost always the nurses hold the pet, then the dog can escape back to the owner afterwards.

The ventral skin of the tail can be really sore from scooting so it is good to check first that the tail skin is not raw before you go move the tail away to get clearance to the anus. That way the dog doesn't start objecting early which then puts the owner into panic mode.

If there has to be a lot of shaving just because the dog is hairy or because the area is a mess, I do warn the owner in advance that the shaved dogs will behave oddly when we put them back down on the floor, that the dog is not hurt but rather is disconcerted by getting 'air on their rear' now that the hair matts are removed. The odd 'bum-down, bum-up' act stops in a few minutes.

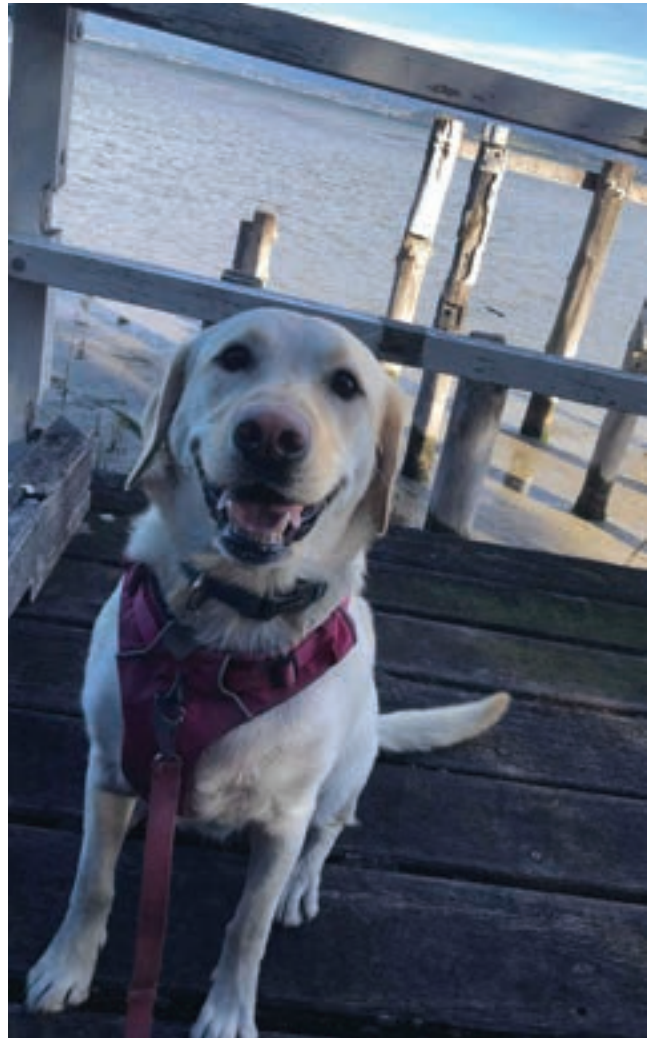
I used to use the Vet Malacetic wipes to clean down the anal area afterwards but they are no longer available. While I hate using human topicals on dogs, I have found none react to a once-off wipe down in-clinic with a wet wipe from the supermarket or chemist. These wipes really do clean the dog down fast; and deodorise your room and your clinical waste bin as an added bonus. Nowadays, I always use our Class 4 laser on any anal sac presentation, usually after the sac has been emptied but sometimes beforehand, if the initial internal finger press indicates the sac is likely impacted. The laser will also reduce pain and accelerate healing post anal sac abscessation, etc.

ANAL ODDS AND ENDS

Secretion scale: I have a few other canine references below that I have used over the years, where you scale the anal secretion from one to five based on consistency, colour, texture and smell.

Teeth-to-tail link

An interesting link is that the microorganisms in the mouth determine the microorganisms in the anal sacs. It is surprising how often, when a foetid mouth is cleaned up, that a decrease



Luna is pictured "living her best life". Luna the Labrador is a reformed character and leading a wonderful life with her dedicated owners.

in the frequency of hind leg and toe/foot chewing is then observed.

Anal sac calculi

I have only ever had one case of what could be described as anal sac calculi: solid, discrete, creamy 'struvite/crystals' mixed into a not too odorous pale-yellow semi-clear liquid. I had never seen this 'crystal' mixture come out of an anal sac before that case.

I have seen hard black impacted grit first ooze out, but never a tumbling cascade and never as a light color and in irregular shapes with minimal odour. This crystal-calculi scenario has never been reported before. I had never seen it before nor have any vets I have asked. The only unique aspect of the case was this dog was on Oclacitinib and these were the first anal sacs I have emptied in a patient on this particular product. Watch this space.

Canine apocrine gland anal sac adenocarcinoma

The incidental diagnosis rate in dogs is greater than 50 per cent with early detection and smaller tumour size being better prognostic indicators. Incidence in cats is super rare, at 0.5 per cent of all feline skin tumours.

The tumour tends to be clinically silent, initially. There is less scooting, licking, etc. Then there is an onset of straining, hind limb lameness and oedema start to show. Hind limb paresis tends to be secondary to the paraneoplastic hypercalcaemia, the latter occurring in 90 per cent of affected dogs. In over 30-plus years, I have rarely ever seen one; although I am always alert for it.

Since my first year of practice I have always checked/emptied anal sacs on almost all dog patients on most visits (within reason, i.e., not a puppy or not if the dog is at clinic attending the clinic on a weekly or monthly revisit basis). I have done so in different countries around the world, so I am not staying within genetic or familial lines re: disease risk etc. Am I inadvertently having a preventative effect on the expression of a neoplasia by removing an inflammatory infected focus/trigger very early on in the piece for a given at-risk dog?

SUMMARY

Anal sac issues are one of the great indicators of both behaviour problems and dermatological conditions. We need to be addressing this connection before yet more drugs and interventions are loaded onto the dog, and at more cost to the owner.

FURTHER READING

- Robson, DC, Burton, GG, Lorimer, MF. Cytological examination and physical characteristics of the anal sacs in 17 clinically normal dogs. *Australian Veterinary Journal*. 81(1-2):36-41, 2003.
- Pappalardo, E, Piera, AM, Noli, C. Macroscopic, cytological and bacteriological evaluation of anal sac content in normal dogs and in dogs with selected dermatological diseases. *Veterinary Dermatology*. 13(6):315-22, 2002 Dec.
- Lake, A M, Scott, D W, Miller, W H Jr., Erb, H N: Gross and cytological characteristics of normal canine anal-sac secretions. *J Vet Med A Physiol Pathol Clin Med*. 51(5):249-53, 2004 June
- C.R.E Halnan. The diagnosis of anal sacculitis in the dog. *J. Small Anim Pract*. 17 (8): 527-535
- C.R.E Halnan. The frequency of occurrence of anal sacculitis in the dog. *J. Small Anim Pract* 1976;17 (8): 537-541
- C.R.E Halnan. The experimental reproduction of anal sacculitis. *J. Small Anim Pract* 1976;17 (10): 693-697

Reader Questions and Answers

1. **A CLIENT RINGS TO REPORT THAT ONE OF THEIR DOGS HAS SUDDENLY STARTED TO MOUNT THE FAMILY'S OTHER DOG. DO YOU:**
 - A. Advise immediate referral to behavioural specialist?
 - B. Request the client present both dogs to the clinic for a check-up?
 - C. Request the client book present the dog to you that is performing the humping?
 - D. Request the client to present the dog who is being humped?

2. **THE CLIENT PRESENTS BOTH DOGS TO YOUR CLINIC. DO YOU:**
 - A. First conduct a hands-off behaviour consultation, advise behaviour modifying medication for the dog who is doing the humping and ask the owner to ring in with a progress report in two weeks' time?
 - B. First conduct a full physical examination on both pets and empty the anal sacs of both dogs?
 - C. Give advice on appropriate dietary needs with the potential to run further investigations and behaviour modification, if the initial expression does not settle the issue?
 - D. B and C?

3. **WHICH STATEMENT IS TRUE?**
 - A. Apocrine gland anal sac carcinoma is very common in cats.
 - B. Scooting and licking are common signs of apocrine gland anal sac carcinoma.
 - C. Hypercalcaemia occurs in a minority of affected dogs.
 - D. Hind limb oedema and hind limb lameness and paresis are markers for the presence of this adenocarcinoma.

4. **A STABLE BEHAVIOUR DOG PATIENT SUDDENLY BEGINS TO EXHIBIT ABERRANT BEHAVIOURS. THESE NEW BEHAVIOURS HAD NOT BEEN AN ISSUE WHEN THE PATIENT WAS FIRST DIAGNOSED WITH ITS ORIGINAL EMOTIONAL HEALTH OR MENTAL HEALTH ISSUE. DO YOU:**
 - A. First focus on modifying and adding to the patient's current drug and behaviour protocols in an attempt to suppress this new undesirable behaviour?
 - B. Perform a full physical clinical exam to ensure there are not emerging loci of infection or pain that could be contributing to the appearance of the new clinical signs?
 - C. Run additional appropriate diagnostic interventions based on your findings in B?
 - D. B and C?

ANSWERS: 1B; 2D; 3D; 4D