

Veterinary Care & Specialty Group



VCSG

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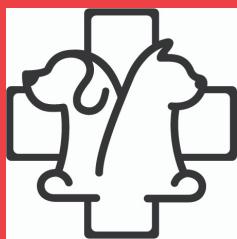


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Journal Club
Wednesday, June 2
8:30 a.m.
Details coming soon!



REUNITED!!!

On the afternoon of April 16, a nightmare began for Dr. Amy Holford, one of our Internal Medicine veterinarian specialists at VCSG. As seen on the security cameras at VCSG, two young men got into her truck and drove past our front door in the afternoon sun. The horrifying part of this theft is that Dr. Holford's two dogs - Coconut and Harry - were in the back seat of the truck. A few hours later, Dr. Holford discovered that the truck, Coconut, and Harry were gone. The Chattanooga police responded and began searching for the truck, and more importantly, the dogs. The story went live on the main television stations as social media exploded. Our own VCSG family, people from rescue shelters and neighborhoods all over town, in addition to the fire department, answered the call for help. After receiving multiple tips from people who had seen the dogs, Harry was found and reunited with Dr. Holford in the early hours of Saturday morning. Coconut was nowhere to be found. Late Saturday afternoon, as Dr. Holford was being interviewed by a television reporter, a call was received at our front desk that Coconut had been spotted. Immediately, Dr. Holford, Dr. Liz Boggan (a veterinarian at Red Bank Animal Hospital and former student of Dr. Holford at UT), and Rachael Romero left VCSG in search of Coconut. Several hours later and no Coconut, they returned to the hospital. As night was falling, during a second search with Dellen and Jessica Ward, Coconut was seen peeking out from behind some bushes in an area close to VCSG. Reunited with his mom and brother, Coconut was celebrated as he came through the doors of VCSG! (The truck was found in Brainerd.) Dr. Holford sends her heartfelt thanks to all those who searched for Harry and Coconut and supported her in so many ways during this horrifying experience. Dr. Holford, Harry, and Coconut are well and happy to be together.



Harry



Reunited



Coconut



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Vader's Friends of the Month



Vader Pullen



Ask the Vet

Nasopharyngeal Stenosis in Cats Diagnosis and Ballooning Treatment

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Dr. Tamulevicus is an Internal Medicine specialist at VCSG.



Cats frequently present to veterinarians for chronic upper respiratory issues, typically involving nasal discharge, sneezing, and noisy congested breathing. The more common diagnoses include chronic inflammatory rhinitis, nasopharyngeal polyps, and foreign bodies. In the case of chronic rhinitis, diagnosis is confirmed via nasal histopathology. In some cases this disease can involve secondary bacterial and/or viral infections. Many cats are treated with antibiotics, anti-inflammatory medications, such as steroids and antihistamines. If feline herpesvirus is either suspected or confirmed as a co-conspirator, intra-nasal vaccination may be attempted. Treatment is typically chronic and flare ups are common.

Nasopharyngeal polyps are somewhat common and most often occur in younger cats, though they can be seen at any age and should be a consideration. Many can be diagnosed via pushing on the soft palate and feeling an obvious structure hiding above it; often a spay hook can be used to pull the soft palate forward often allowing the polyp to be visualized. Removal is considered relatively easy, although recurrence is possible.

Foreign bodies are occasionally found in the nasopharyngeal region during retroflexion and/or during nasal flush, and most commonly include grass and grass/plant seeds, and occasionally old hair balls. One colleague of mine actually found a dead vole in the nasopharyngeal area of a cat.

Once in a while, however, there are cats that present with long term upper airway congestion, even in the face of empirical treatment for chronic rhinitis and/or infections. Some empirical treatment may result in some improvement, but ultimately the upper airway congestion and difficulty breathing through the nose continue and typically worsen over time. In these cases, nasal pharyngeal stenosis should definitely be on the rule out list, particularly in cats with a longer history of chronic airway issues that just do not improve and can lead to significant respiratory difficulty.

The underlying cause of nasopharyngeal stenosis can vary, and in some (Continued on next page)



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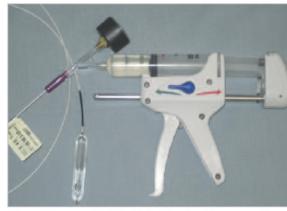
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Example of retroflexed scope view of Nasopharyngeal stenosis

cases cannot be determined. Reported causes have included: chronic inflammatory condition such as chronic rhinitis +/- chronic infections such as feline herpesvirus; aspiration rhinitis; trauma; previous surgery; and congenital development. Age of patients with nasopharyngeal stenosis can vary widely with reports ranging from 7 months to 11+ years.

Nasopharyngeal stenosis is diagnosed most easily by visualization with an endoscope retroflexed around the soft palate. A bronchoscope is usually the best option for this procedure given cats' smaller size overall. The stenosis appears as a sheet of tissue usually blocking any visualization of the choanae. In many cases there is only a very small opening visualized where the stenotic tissue has not yet grown completely over. A CT scan prior to scope retroflexion may be helpful, but given the relatively thin nature and variability of growth of the stenosis, it may not appear clearly on the CT scan. If a CT scan is done, retroflexion with the scope should always follow regardless of whether stenosis is suspected, as foreign material, masses, and polyps typically appear in the nasopharyngeal region helping to determine steps required for diagnosis and potentially immediate treatment (in the case of polyps, foreign material, and stenosis) at that time.



Alliance II Integrated Inflation/Litho Handle with syringe and pressure gauge.



Dilated balloon. (Microvasive, Boston Scientific, Natick, MA)

The ideal treatment for nasopharyngeal stenosis is ballooning, with the goal of stretching out and breaking the stenotic tissue as much as possible to allow for an airway opening and therefore significantly improving nasal breathing. Ballooning equipment includes an inflation gun with syringe and pressure gauge, and the balloons themselves which are available in numerous sizes depending on the procedure and patient size. While balloons are typically one-time-use in humans, they can be reused in veterinary medicine after proper cleaning as long as they are still inflatable with no breaks or ruptures. The balloons can be inflated to proper pressure with either air or water. Since ballooning typically does not occur in a sterile region of the body, sterile saline to inflate the balloon is not warranted.

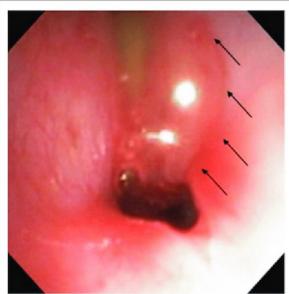
Cats undergoing a ballooning procedure for nasopharyngeal stenosis are typically placed in sternal recumbency. They are intubated and maintained on inhalant anesthesia. Occasionally during the procedure they may require small doses of propofol as manipulation of the soft palate in particular can cause them to be quite reactive.

The bronchoscope is passed orally and then retroflexed up around the soft palate as typically would be done to visualize the nasopharyngeal region and the choanae in particular. However, as stated previously, in cats with nasopharyngeal stenosis, visualization of the choanae is usually completely obliterated by the stenotic tissue. In most cases a very small residual opening can be visualized within the abnormal tissue, although occasionally it is difficult to locate even a small residual opening. In those cases usually passing the balloon retrograde and manipulating it allows for the potentially tiny opening to be found; rarely an opening may need to be made before ballooning can occur.

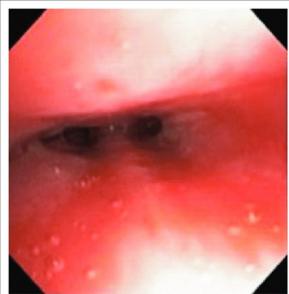
The retroflexed bronchoscope is kept in place in order to visualize the ballooning. Once the scope is in place, the balloon is passed through one of the nares caudally until it can be visualized passing through the residual opening in the stenotic tissue. The balloon is typically passed until its widest portion is sitting within the opening. The balloon is then inflated fully with either air or water typically until it is at maximum capacity. Smaller balloons are used initially to start with a gradual stretching of the stenosis - typically 2-4 inflations minimally, holding each inflation for at least 30 seconds to 1 minute. These inflations are done with the smaller balloon first before then moving on to a larger balloon. With cats, balloon sizes that can be used range from 6 mm to 12 mm, starting with a smaller one and working up to 10 mm or 12 mm balloon in most cases. With inflation of the balloon, it is very common and in fact desired to see a small amount of bleeding around the stenotic area as this indicates breakage of the fibrous stenotic tissue. In some cats it is possible to break down the stenosis completely, although more typically the goal is to at least break it down enough to allow for significant enlargement of the opening.

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Balloon in place through opening in stenosis



Post-balloon view with the choanae now visible

Most cats will require 1-2 additional ballooning procedures, as stenosis can recur. Beyond that, many cats can do very well without further procedures. However, this can depend on underlying causes leading to the stenosis in the first place, as well as other nasopharyngeal structural abnormalities. Some cats do end up requiring more than 2 dilation procedures. Recurrence has been reported to occur as soon as 1 month and up to six months. We typically recommend keeping a patient on an oral steroid leading up to and then after the ballooning procedure, as it may help prevent or at least limit reformation of the stenosis. In addition, there is often an inflammatory component (inflammatory rhinitis) present along with the stenosis that can potentially improve with steroid treatment. If recurrence does occur, it is an additional procedure, but most cats improve again immediately following the procedure, and success rates of a good quality of life increase more with repeat ballooning.



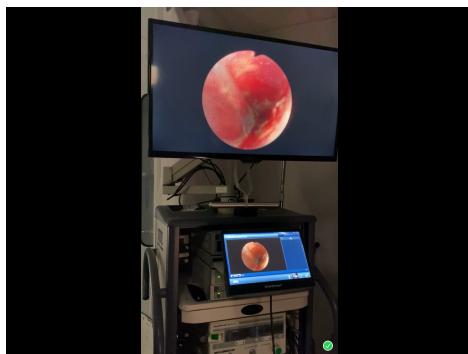
Initial retroflexed view of a patient with stenosis, with nasopharyngeal area on lower right and obliteration of view of choanae obliterated by stenosis



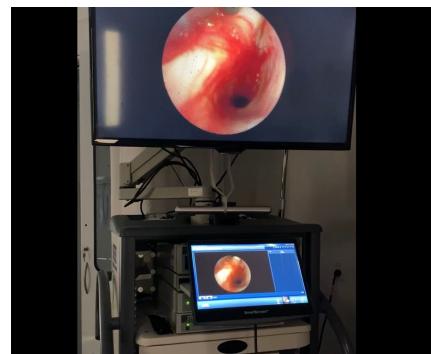
Same retroflexed view with tip of balloon coming through choanae



Inflated balloon in place with resulting bleeding after some of stenotic tissue has been successfully broken down



Post dilation view with deflated balloon still in place



New view post ballooning with successfully expanded opening in the stenotic tissue