METROPOLITAN VETERINARY ASSOCIATES
NEWSLETTER
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PROTEINURIA IN CANINE PATIENTS

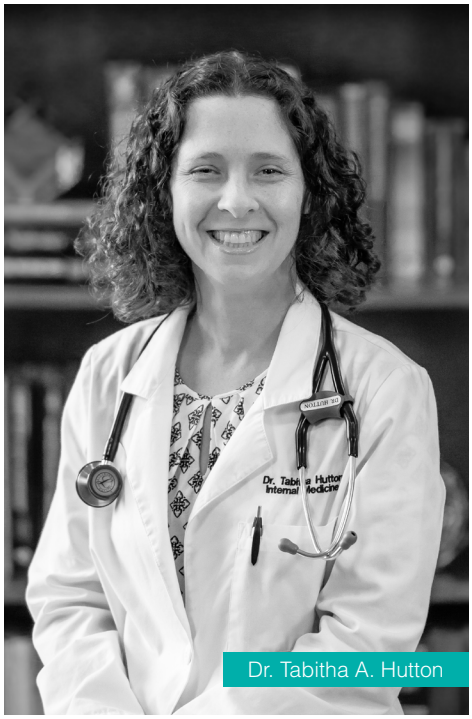
We increasingly recognize the phenomenon of pathologic proteinuria in our canine patients. The finding may be incidental, identified on routine lab work in an otherwise outwardly healthy pet. Less commonly, we recognize the condition in patients evaluated for unexplained hypoalbuminemia, or in patients with kidney disease. Proteinuria is initially found on a routine urinalysis in most cases. In many of these cases, the result may be related to an inflammatory or infectious condition (such as a urinary tract infection), or may be a transient or even spurious phenomenon. Depending upon the patient's underlying condition, the next reasonable diagnostic step may be to merely repeat the urinalysis in a couple of weeks, or to re-evaluate for proteinuria after addressing any infection. If lower urinary tract inflammation is present or suspected (vulvovaginitis, balanoposthitis), obtaining a sample by cystocentesis may help to exclude these contributing factors.

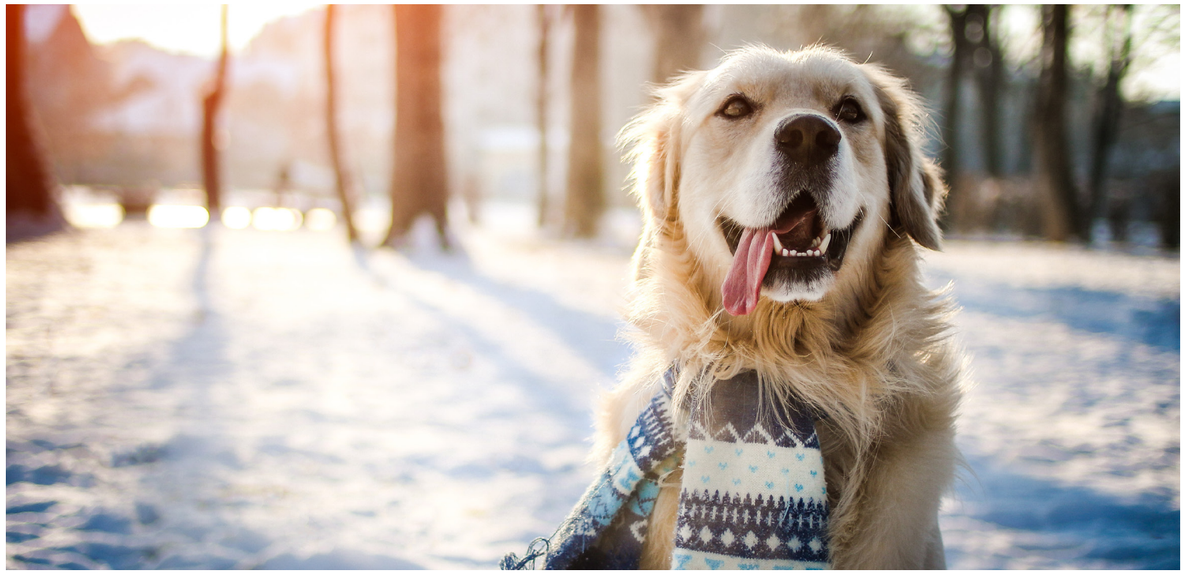
Once the proteinuria is confirmed to be a persistent finding, quantification of the magnitude will help to determine what next steps should be recommended. The urine protein: creatinine ratio (UPC) is the test most commonly utilized for this purpose. In dogs, normal is <0.5. If an elevated value is identified, rechecking the value in 2-4 weeks on at least 2 additional occasions is recommended to confirm persistence. If the magnitude of the UPC is high (>2.0), repeated determinations may not be as necessary. However, in these cases, because there can be significant day-to-day variability of the UPC, collecting 2-3 individual samples and mixing equal aliquots of each to submit for UPC evaluation may help increase the confidence level in the pet's baseline UPC value, as well as for assessing response to therapy.

"ONCE THE PROTEINURIA IS CONFIRMED TO BE A PERSISTENT FINDING, QUANTIFICATION OF THE MAGNITUDE WILL HELP TO DETERMINE WHAT NEXT STEPS SHOULD BE RECOMMENDED"

DIAGNOSTICS

Pathologic proteinuria can be associated with or triggered by a variety of diseases. Appropriate testing includes infectious disease screening tailored to the locale and travel history of the patient, as well as evaluating the patient for endocrine disorders such as Cushing's syndrome, neoplasia, and immune-mediated disease. All animals with pathologic proteinuria should be screened for arterial hypertension. The scope of the diagnostic work-up is tailored to the needs of the patient based on their history, physical examination findings, and results of initial lab tests. Patients with high magnitude proteinuria (UPC >3.5), hypoalbuminemia and/or azotemia may benefit from a more exhaustive battery of tests. This may include performing a renal biopsy in some patients, particularly if there is progressive disease and/or a lack of response to conventional treatment.


Dr. Tabitha A. Hutton



> “PROGNOSIS FOR THESE DOGS IS VARIABLE, AS IT DEPENDS UPON THE UNDERLYING ETIOLOGY OF THE DISEASE AS WELL AS THE MAGNITUDE OF THE PROTEINURIA.”

TREATMENT

If proteinuria persists (UPC >0.5, and particularly >2.0), standard therapy is typically instituted.

This includes use of an angiotensin-converting enzyme (ACE) inhibitor, low protein diet, and supplemental dietary omega-3 fatty acids. In some cases, an angiotensin-receptor blocker is also used, either in lieu of, or in addition to, use of an ACE inhibitor. If arterial hypertension is identified, it must also be controlled. Use of aspirin (and/or other anti-platelet drugs) is also instituted in many cases to reduce the chances of blood clot formation, though the optimal dosing for these drugs is still being investigated.

In dogs with high magnitude proteinuria (UPC >3.5) in which renal biopsy has demonstrated evidence of an active inflammatory disease process that is believed to be immune-mediated, immunosuppressive therapy may need to be instituted. Though instituting immunosuppressive therapy without the guidance of a biopsy diagnosis can also be contemplated, there are obvious risks to this approach, including side effects of the drugs, costs of therapy, additional monitoring required, and the very real possibility that the underlying disease process is not one for which immunosuppressive therapy would be indicated.

MONITORING

Dogs started on an ACE inhibitor should be screened for safety concerns after 1-2 weeks of therapy (blood pressure, renal values and potassium). After 2-4 weeks of treatment, efficacy can be evaluated (UPC, ideally pooling 2-3 urine samples). The ideal goal of therapy is to normalize the UPC <0.5, but a more realistic goal is to reduce the UPC by at least 50% or more from baseline. If this is not achieved, incremental increases in ACE inhibitor therapy are undertaken (with subsequent monitoring) until the target reduction in UPC is achieved, or the maximum ACE inhibitor dose is reached. Dogs on chronic ACE inhibitor therapy should be monitored every 6-12 weeks or as appropriate for their clinical condition. Dogs started on antihypertensive must also be monitored for safety and efficacy of therapy.

PROGNOSIS

Prognosis for these dogs is variable, as it depends upon the underlying etiology of the disease as well as the magnitude of the proteinuria. Dogs with low magnitude proteinuria that is responsive to therapy often have a fair to good prognosis, with disease that can be controlled from one to several years. Those dogs with severe proteinuria, particularly those with azotemia and/or nephrotic syndrome, have a more guarded prognosis, with a median survival of <60 days in one study. As always, early recognition of disease and intervention as appropriate may help to maximize quantity and quality of life for these patients.

REFERENCES

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PET LOSS SUPPORT GROUP

Here, we all understand the depth of loss one experiences when a beloved four-legged family member has passed. For that reason, Metropolitan provides a Pet Loss Support Group to help grieving owners in need. Our pet group is designed to provide grieving pet parents with a safe, confidential environment to share their feelings with others who have experienced pet loss.

The group is operated by veterinarians and veterinary nurses who have experience with pet loss. A board certified psychiatrist consults with us regarding the implementation of the group, however, our group leaders are not mental health care professionals. Clients experiencing difficulty coping are urged to seek help from a mental health care professional. We can provide you with the names of health care professionals if needed.

Our Pet Loss Support Group meets on a varying schedule. Please visit **metro-vet.com/petloss** or call the hospital at **610.666.1050** for upcoming dates.

Dr. Katherine Hoff

INTRODUCING MVA’S NEW ER VETERINARIAN

Introducing Metropolitan’s newest emergency doctor – Katherine Hoff, DVM. Dr. Hoff is a graduate of Duke University and the Tufts University School of Veterinary Medicine. Prior to joining Metropolitan, she worked at a general practice that provided emergency care.

Learn more about Dr. Hoff on our site at metro-vet.com/katherine-hoff/.

PORTAL COMING SOON!

Metropolitan has developed a special portal for referring veterinarians that will allow you and your team to access patient records online.

Here’s how it will work:

- Early in 2017, you’ll receive information by email and/or fax on how to log into your hospital account.
- After logging in, you will be able to search your patients by name.
- Available assets will include referral letters, bloodwork, and ultrasound and radiology reports.

If you have any questions, please contact Sarah at 610-666-1050 or sspurgeon@metro-vet.com.

SPECIALIZED SERVICES

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DENTISTRY
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Tabitha A. Hutton, DVM, MTR, DACVIM (SAIM)
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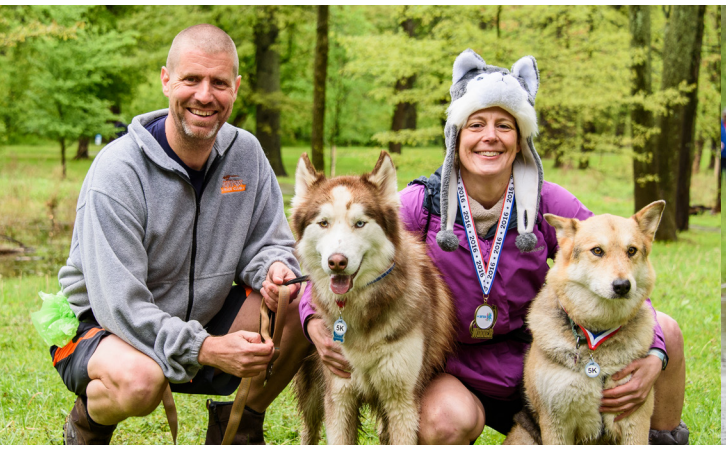

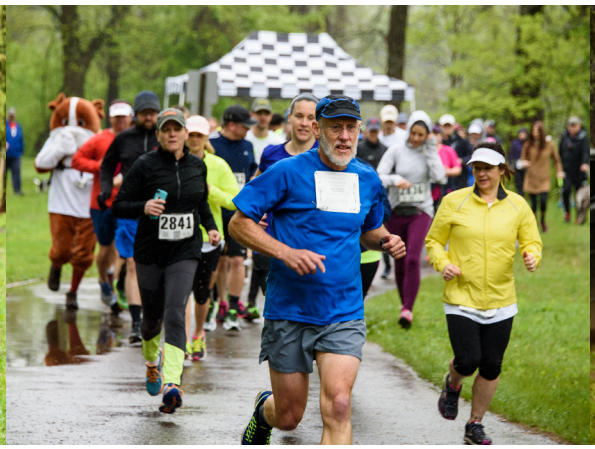

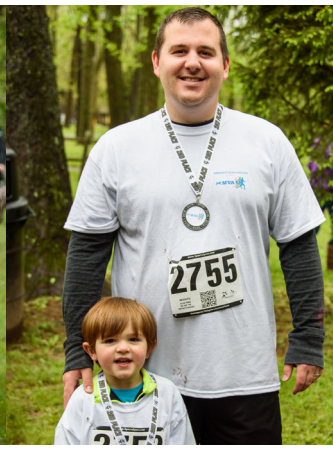

MVA 5K 2017

Save the Date — May 6, 2017 — for our annual 5K benefiting the Paws of Promise Foundation! *MVA 5K 2016 highlights above.*

PENN VET

MVA was recently selected as the first multi-specialty hospital to become a member of the Penn Vet Affiliates network!

Through this symbiotic relationship, MVA gains greater access to PennVet's significant resources such as state-of-the-art equipment, onsite labs, and their library. It also allows us to host Penn's specialists at continuing education events for our referring veterinarians and their staff. We are proud to have been hand-selected as a PennVet Affiliate — an honor that heralds our staunch dedication to excellent service, exceptional skill, and extraordinary care.

PennVet *Affiliate*

NEW OUTPATIENT MRI

We are excited to announce that starting in the first part of 2017, MVA will be offering outpatient MRI for referring veterinarians at our hospital in Valley Forge. Stay tuned for more details!

EMERGENCY
PET CARE
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