

Presented by:



Dr. Lambros Stamatakis is the Director of Urologic Oncology at MedStar Washington Hospital Center and an Assistant Professor in Urology at the Georgetown University School of Medicine. He completed his medical training at the University of Maryland, and then completed his urology training at Baylor College of Medicine in Houston Texas. He returned to the mid-Atlantic in 2012 to complete a fellowship in urologic oncology at the National Cancer Institute in Bethesda, Maryland. After that, he started his academic practice in Washington, DC. His research interests include novel therapies for BCG, unresponsive non-muscle invasive bladder cancer, and he serves as a local primary investigator on two clinical trials available at MedStar for non-muscle invasive bladder cancer.

Dr. Stamatakis: Let's talk a little bit about the warning signs for bladder cancer. The biggest one is certainly hematuria, otherwise known as blood in the urine. This is absolutely the most common symptom or sign that's associated with the diagnosis of bladder cancer. It can be gross, meaning that someone actually sees gross blood in their urine, or it can be found microscopically, which is diagnosed by urinalysis. That often would be done as part of, let's say, your physical exam that's done by your primary care provider. The risk actually does vary depending on the severity of the hematuria. In patients who have microscopic hematuria, it's estimated that up to 3 percent of patients will have an underlying cancer in the urinary tract, but if you have gross hematuria, the risk can go up to about a quarter of patients, so it's something that we certainly take very seriously.

One thing that we have to recognize is that many other urologic conditions can cause hematuria; in fact, if you have blood in the urine it's more likely that you're not going to have an underlying bladder cancer than that you will. What are the other things that could potentially lead to blood in the urine? A urinary tract infection is a very common cause of having blood in the urine, both microscopic and gross. In an individual less than 50 years of age, the most common cause of blood in the urine is actually an

Warning Signs | Hematuria

Hematuria (blood in the urine)

- The most common symptom associated with the diagnosis of bladder cancer
- Can be gross (seen with the naked eye) or microscopic (only diagnosed by urinalysis)
- Risk varies depending on severity of hematuria
 - Microscopic – 1-3% of patients will have underlying cancer in urinary tract
 - Gross – up to 25% of patients!



undiagnosed kidney stone or a stone elsewhere in the urinary tract, like in the bladder. In a man greater than 50 years of age, the most common cause of blood in the urine is actually

having a benign enlarged prostate, otherwise known as BPH. Trauma to the urinary tract can cause blood in the urine. Medical kidney disease and other inflammatory conditions to the kidney can also lead to blood in the urine. Tumors that develop from the parenchyma of the kidney, which is really the substance of the kidney, not the renal pelvis that collects the urine but the actual tissue of the kidney. That also can lead to blood in the urine.

Warning Signs | Hematuria

Hematuria (blood in the urine)

- Many other urologic conditions can cause hematuria, including...
 - Urinary tract infection
 - Kidney/bladder stones
 - Trauma
 - Enlarged prostate
 - Kidney disease
 - Renal tumors
- Vaginal bleeding can also be confused with gross hematuria and vice versa

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Another thing that we often will see as urologists is a confusion by our primary care providers about the difference between gross hematuria and vaginal bleeding, and often it's unclear unless you really take a more thorough history. Somebody can say, "Well, I'm seeing blood spotting in my underwear." Well, it's unclear whether that actually came from a patient's urine or if that's actually coming from the vagina, and that's something that really needs to be flushed out so that the primary care provider can know how to make the appropriate referral.

As a patient advocate, we always have to ask ourselves, should I question my doctor. This is a really difficult thing to do. You're going to this person, you're putting your trust in them, and you want to have faith that they're giving you the best information possible and making the correct diagnosis, but I do think that in 2018, we as responsible patients and advocates, we need to be able to ask appropriate questions and no provider should ever feel threatened by that or get angry at you if a question is asked.

What I always tell people is, again, a common reason to have hematuria is you have a urinary tract infection, but you can ask some questions about that. Ask about a urine culture. If you had a urinalysis that was done and that showed microscopic hematuria and your provider decided to put you on an antibiotic, did the provider actually send the urine off for a culture? What a culture does is that the lab will actually allow the urine to grow in a special medium so that we can isolate the bacteria that's causing the urinary tract infection and also know what antibiotics that bacteria will be sensitive to or perhaps resistant to. If you ask about a urine culture result and the doctor maybe shrugs and says he didn't send a urine culture, then I think you should think twice about whether you have a urinary tract infection or not. The other thing, again, that a culture is going to tell you is are you on an antibiotic that makes sense for that particular bacteria. I think that those are questions that you can keep in your back pocket to ask your provider.

If a urine culture was done, ask for a copy of the results, and if there's no bacteria that was grown in that urine culture, ask why did the provider assume that it was a urinary tract infection? Again, you don't want to be in a situation where you're getting an antibiotic for something that's not an actual infection.

If you're continuing to have the symptoms, blood in the urine and some other voiding symptoms, which we're going to describe in a couple of slides, and your provider says, "Well, I guess that first course didn't work. Let's try another course of antibiotics." Then, again, you may want to question that and ask, "Why are we switching to another course of antibiotic when perhaps I didn't have bacteria grow in the first place or I didn't have a new antibiotic profile that suggests that I was resistant to the first antibiotic to begin with?" These are all things that we should think about as we're trying to improve our chance of success here.

Warning Signs | Hematuria

Hematuria (blood in the urine)

- Should I question my doctor? Maybe...
- You are told you have a UTI...
 - Ask about the urine culture results? Are you on the appropriate antibiotics based on the culture?
 - If no bacteria, then why is provider assuming UTI?
 - If told to take another course of antibiotics, why? Is there a new urine culture that suggests resistance to the first course of antibiotics?



If blood is clearly in the urine, another thing that you can ask is, "Why would you refer me to a gynecologist and not a urologist?" I can tell you that it's not infrequent for me to get a consult from a gynecologist for hematuria, and that's simply because the primary care provider referred that patient to a gynecologist first with the assumption that this was vaginal bleeding and not actual blood in the urine. If you're actually seeing blood in your urine as opposed to spotting in your underwear, then really a urologist is the person that you should be referred to, not a gynecologist.

Warning Signs | Hematuria

- If blood is clearly in urine, then why referral to GYN and not a urologist?
- Bleeding has stopped on its own and now asymptomatic... should I ignore? NO
- Could bleeding be due to my blood thinners? Do I really need to see a urologist? YES
- Do I need further workup beyond reassurance?

How about a situation where the bleeding has stopped on its own and now you're feeling fine? Should you ignore it? I see this often, and, unfortunately, the answer is no, you shouldn't ignore it. If you've had gross hematuria that is not associated with symptoms and that hematuria did resolve spontaneously, that blood could have been coming from a tumor that, just like anything else in your body if you develop a cut

and it eventually will stop bleeding, well, tumors can stop bleeding, too. I don't think any gross hematuria should be ignored.

How about patients who are on blood thinners? That's another thing that we often see is that I'm on a blood thinner for another condition. I've been told that's like the reason that I had blood in the urine and I don't need to worry about it. That, again, is something that is not true. If you're on a blood thinner, which is not reassuring that you don't have an underlying problem within the urinary tract that needs to be evaluated. Even if you're on a blood thinner, you really should see a urologist to evaluate the blood in the urine.

An ideal workup for hematuria should include something known as a CT urogram, and this is a special CT scan that's going to look at the upper urinary tract and look for a source of the blood in the urine. Not only is it looking for cancers of the upper urinary tract, but it's also looking for kidney stones and other abnormalities. Your kidney function does have to be normal

for you to get this test, because it does require intravenous dye. If you have abnormal kidney function, the provider may order another study like an ultrasound, etc. The other part of the workup does include a cystoscopy, and that's a camera that's put inside the bladder to allow for direct visualization of the lining of the bladder, and just like a colonoscopy is necessary for screening of colon tumors and polyps, a cystoscopy is very similar because the bladder is a big hollow organ and, frankly, no modern day imaging can actually evaluate that lining without direct visualization at this time.

Urine cytology may be another test that your doctor orders, and that's basically where the urine is taken, spun in a centrifuge, and then a pathologist looks under the microscope at the cells to see if they can detect any cancer cells. Those are the three things that often people will order for a workup for blood in the urine.

Warning Signs | Hematuria

- Ideal workup for hematuria should include...
 - ▣ CT urogram (if kidney function is normal, otherwise provider may order another study)
 - ▣ Cystoscopy
 - ▣ Urine cytology

Warning Signs | Hematuria

In my opinion...

- Asymptomatic microscopic hematuria (defined by 2 separate urinalyses with microscopy in the absence of a UTI) should be worked up in all patients with risk for underlying GU cancer
- Symptomatic microscopic hematuria and ALL patients with gross hematuria in the absence of a documented UTI should undergo a full workup

*** This does include patients who are on blood thinners or are assumed to have an otherwise obvious cause of hematuria (i.e. non-obstructing kidney stone, history of pelvic radiation, etc)

Again, this is my opinion, and based on guidelines from the American Urological Association, is that in patients who have asymptomatic microscopic hematuria, so, again, you're not having any symptoms, but there is some microscopic blood in the urine, which we define as two separate urinalysis with microscopic evaluation in the absence of a urinary tract infection. If you have an infection, it gets thrown out the window. That's theoretically not true hematuria that needs to be worked up.

Again, if you have those particular

scenarios, you should workup all patients with a risk for underlying GU cancer. We talked about the risks before. If you're a smoker, if you're a patient who is of advanced age, if you have perhaps a family history or work in an occupation that's of higher risk, you should be worked up with the studies that I mentioned in the previous slide. In addition, anyone who has symptomatic microscopic hematuria, we're going to talk about some of these symptoms in a second, and all patients with gross hematuria or gross blood in the urine in the absence of a documented infection should also undergo a full workup. As I mentioned before, this includes patients who are on blood thinners or have an otherwise seemingly obvious cause of blood in the urine.

What are these symptoms that I'm talking about? Patients can often have what we call irritative voiding symptoms and obstructive voiding symptoms. Irritative voiding symptoms are more often seen in bladder cancer, although many patients with bladder cancer have no irritative symptoms at all. These include symptoms like going to the bathroom more frequently, having a sense of urgency, perhaps that sense of urgency can be associated with leakage, which we know as urge incontinence, and you can even have dysuria, which is pain with urination. That can especially be concerning if you don't have a urinary tract infection at the time, and can often be associated with non-muscle invasive bladder cancer.

Obstructive voiding symptoms are less common with bladder cancer unless the tumor is actually obstructing the bladder outlet, and those symptoms can include having a slow or intermittent urinary stream, a sensation of not being able to empty the bladder completely, or having a sense that you need to strain to be able to empty your bladder. Again, all of these symptoms are not necessarily specific to bladder cancer, and they're more likely due to something else. A male who has obstructive voiding

symptoms is more likely to have an enlarged prostate than have bladder cancer. A female who is having irritative voiding symptoms is more likely to have an overactive bladder than bladder cancer, but, again, it's something that we need to think about and workup.

Pain, as well as other what we call constitutional symptoms, are something else that can be related to bladder cancer. Some people can have pain in their flank or upper back if the tumor is blocking the ureter, because that impairs the flow of urine from the kidney down to the bladder. Patients, in fact, can be misdiagnosed with having a kidney stone because it's a very similar sort of symptomatology that's associated with a tumor that's blocking the ureter. Patients can also just have pain in their pelvis or suprapubic area, which is that area just above the bone in your pelvis, just above the penis or the vagina, and that could be due to a very advanced bladder tumor that may be invading into the surrounding structures.

If the cancer is advanced or metastatic, sometimes you can have pain in the area of a tumor deposit, so you could have pain somewhere in your abdomen, for example if you have a tumor in the liver, you may have pain in the right upper part of your abdomen. If you have metastatic disease to the bone, you may have pain in that part of your bone. In addition, having symptoms like fatigue or loss of appetite or weight loss or night sweats, those are known as constitutional symptoms, and those can also happen in patients who have advanced or metastatic bladder cancer.

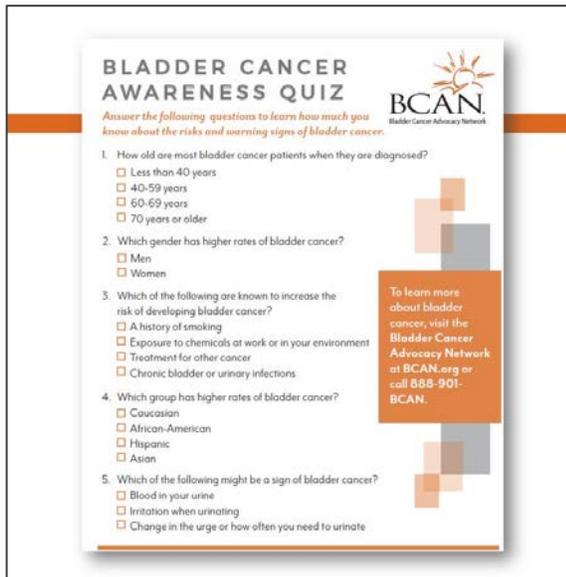
Warning Signs | Voiding Symptoms

- Irritative voiding symptoms
 - ▣ Urinary frequency
 - ▣ Urgency
 - ▣ Dysuria (especially without documented UTI)
 - ▣ Urge incontinence
- Obstructive voiding symptoms
 - ▣ Less common (can occur if tumor is obstructing bladder outlet)
 - ▣ Slow, intermittent stream
 - ▣ Sensation of incomplete voiding
 - ▣ Straining to urinate

Again... all of these symptoms are not specific to bladder cancer and are more likely due to something else (BPH, UTI, overactive bladder, etc)

This is, again, another great handout that BCAN has created that really highlights some of these signs, symptoms, and warning signs for the development of this disease, and includes the most common risk factors. I would encourage you to take a look at this as well.

Again, we provided them in the handout section on the webinar so that you can share them with others, because most patients tell us they don't want anybody else to have to deal with the same circumstances that they did, of not knowing that they had bladder cancer.

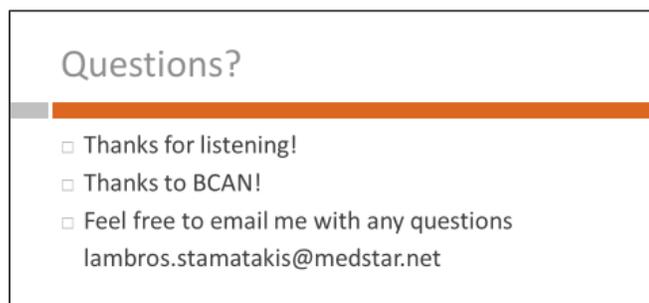


There is a little quiz that BCAN has also come up with, and hopefully, if everyone was paying attention, you should be able to answer every one of these questions.

It's bladder cancer awareness month, so this quiz is available in the webinar handout section, as well as on our website electronically. We encourage you to let other people know about it so that more people are aware about the signs and symptoms of bladder cancer before they're diagnosed.

If there's any questions about the quiz or any of the other material, I'd be happy to certainly answer anything. My email address is up there. You can certainly email me with any questions that you may have. I think this is obviously an important topic that

I'm very passionate about, and it's really fantastic that BCAN has been able to continue to serve as patient advocates for bladder cancer patients and their families.



BCAN would like to thank our sponsors for their support.

