

Microscopic Haematuria (*blood in the urine found under the microscope*)

You have had blood found in a urine test. This is called haematuria, which is the medical term for red blood cells in the urine. Red blood cells in the urine can come from the kidney (where urine is made) or anywhere in the urinary tract. The urinary tract includes the ureters (the tubes that carry the urine from the kidneys to the bladder), the bladder (where urine is stored), the prostate (in men), and the urethra (the tube through which urine exits the body).

There are two types of haematuria: macroscopic (blood that you can see in the urine) and microscopic. This information sheet is only for those with microscopic haematuria. Microscopic haematuria means that the urine is normal in colour, but there are an increased number of red blood cells seen with a microscope. It is usually discovered when a urine sample is tested with a dipstick. The results of a dipstick test are not always accurate and should be confirmed with a microscopic examination.

Microscopic haematuria is a relatively common finding. It affects between 2% to 30% of people in the general population with higher rates in older patients. Patients with microscopic haematuria will generally feel no symptoms and the vast majority will not have any serious disease.

Causes of blood in the urine

- Bladder or kidney infection which typically causes flank pain, burning or pain with urination
- Kidney stones, which usually present with one-sided back or flank pain.
- Certain kidney diseases
- Vigorous exercise (for example running marathons) or injury (for example, after falling off a bike and bruising a kidney)
- Enlargement of the prostate (called benign prostatic hyperplasia), a common problem in older men
- Post-menopausal changes in women
- A tumour of the bladder, prostate, or kidney (which may or may not be cancer). It is more common in patients over the age of 50 years with certain risk factors such as family history, smoking cigarettes and other tobacco products, and exposure to certain industrial chemicals or drugs. Your urology doctor will ask you these questions to assess your risk. It is important to note that only 2% to 5% of patients (or 2 to 5 per 100) that present with microscopic haematuria will have a tumour.

Tests

There are a number of tests available to determine the cause of haematuria. You may not need every single test. The purposes of the tests are to rule out serious causes for the blood.

- Urine tests – Urine tests can provide clues about the cause of haematuria. This may include a urine cytology, which uses a microscope to analyse cells from the lining of the bladder and kidney (found in the urine). It can look at infection if present. You may be asked to provide three samples for this purpose
- Blood tests – Blood tests may be used to look for evidence of kidney diseases

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- CT scan – Computed tomography (CT) scan is a radiology test that examines the structure of the kidneys, ureters, and bladder. Kidney stones or abnormalities of the kidneys, ureters, and bladder can usually be seen with a CT scan. You will be given a dye to better look at the insides of the kidneys. You need to have a blood test before to check your kidney function and stop your diabetic medication (Metformin) for 24 hours in order to safely have the dye which is processed by the kidneys. Radiology should instruct you. Keep your fluids up at the time of this test.
- Ultrasound – An ultrasound of the kidney, ureter, prostate (for men) and bladder is an alternative to CT scan and is preferred for people who are allergic to the dye used in CT or for younger patients. Ultrasound uses sound waves to create a picture of underlying organs.
- Flexible Cystoscopy – Cystoscopy is a procedure to look at the lining of lower urinary tract (bladder, prostate in men and urethra). It is done as a day surgery procedure. A small tube with a camera is inserted into the bladder through the urethra. A numbing gel is applied before the tube is inserted to decrease discomfort. The vast majority of patients tolerate this procedure very well. For women it is not more difficult than a PAP smear or gynaecological exam. You can drive yourself to and from the test and do not need to fast. Sometimes if your GP refers you with only microscopic haematuria I will arrange to meet you at the time of this test to help “fast track” your assessment. I will arrange for you to have your CT scan and urine testing before this day. Please let the staff know if you have any questions.

Treatment

There is no one specific treatment for all cases of microscopic haematuria. Rather, treatment is aimed at the specific underlying cause, if a cause can be determined. Up to 50% of patients with microscopic haematuria may not have an identifiable cause found. The commonest cause in women over 50 years of age is menopausal changes in the local tissues around the urethra and in men over 50 years of age is benign changes in the prostate.

Follow-up testing – If no underlying cause for haematuria is found during the initial testing, follow-up urine testing and blood pressure monitoring may be recommended with your general practitioner. This is more so for patients who are smokers, over the age of 50 and have prior occupational chemical exposures.

If there is excess protein in your urine or rising blood pressure, your general practitioner may refer you to a nephrologist (specialised kidney doctor).

If your symptoms change (you can see blood in the urine or new symptoms develop such as new problems with urinating), please contact me on the below number.