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Microscopic Haematuria

Microscopic haematuria is when red blood cells are found in the urine under a microscope.

Haematuria is the medical term for blood in the urine. Macroscopic (or frank) haematuria occurs when you can easily see the blood with the naked eye in urine; 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 tests are not always accurate and should be confirmed with a microscopic examination.

Red blood cells in the urine can come from the *kidney* (where the urine is made) or from anywhere in the urinary tract including the *ureters* (the tubes that carry the urine from the kidneys to the bladders), the *bladder* (where the urine is stored), the *prostate* (in men), and the *urethra* (the tube through which urine exits the body).

Microscopic haematuria is relatively common, affecting 2% - 30% of people in the general population. Most patients with microscopic haematuria have no symptoms and the vast majority don't have serious disease.

Causes of Haematuria

- Bladder or kidney infection usually accompanied by flank pain, burning or pain with urination.
- Kidney stones usually accompanied by pain.
- Certain kidney diseases.
- Vigorous exercise eg. running a marathon
- Trauma eg. bruising a kidney after a significant fall or blow to the kidney
- Enlargement of the prostate (benign prostatic hyperplasia), common in older men
- Post-menopausal changes in women
- Tumour in the bladder, prostate, or kidney (which may or may not be cancer) - more common in patients over the age of 40 years, risk factors may include a family history, smoking, and exposure to certain industrial chemicals or drugs. It is important to note that only 2-5% of patients that present with microscopic haematuria will have a tumour.

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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 culture may confirm infection, urine cytology looks for abnormal cells in the urine from the lining of the bladder and kidney (usually three samples are required for this test). It can look at infection if present. You may be asked to provide for this purpose.
- Blood tests – may be used to look for evidence of kidney diseases.
- Ultrasound – this is a good screening tool to exclude significant pathology of kidney, ureter, prostate (for men) and bladder by using sound waves to create a picture of underlying organs.
- CT scan – this is a more detailed imaging test looking for abnormalities of the kidneys, ureters, and bladder, including kidney stones and some tumours. Often an X-Ray dye will be injected into the blood stream highlight the kidneys and ureters. There is a small possibility of an allergic reaction with this dye. A blood test is arranged before the CT scan to check your kidney function and some medications (eg. Metformin) stopped before the test (usually 24hrs prior). Please drink at least 1L/day before and after the CT scan to flush the kidneys well.
- Flexible cystoscopy – this is a procedure to look at the lining of the lower urinary tract (bladder, prostate in men and urethra) using a small camera/telescope. It is done as a day surgery procedure, usually with you awake and numbing gel (local anaesthetic) is inserted into the urethra before the telescope is placed. The vast majority of patients tolerate this procedure very well. You can drive yourself to and from the test and do not need to fast.

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. At least 50% of patients with microscopic haematuria may not have an identifiable cause found.

Follow-up testing – if no underlying causes for haematuria is found during the initial testing, follow-up urine testing and blood pressure monitoring annually is usually recommended with your general practitioner.

If there is excess protein in your urine, rising blood pressure, or other abnormalities on blood testing, Dr Delaney may refer you to a Renal Physician/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), you can be referred back to Dr Delaney.