

Comments to this month's Clinical Challenge

Comments:

The evaluation of patients with haematuria should be initiated by asking three questions:

- Does the haematuria originate from glomerular or extra-glomerular bleeding?
- Is the haematuria transient or persistent?
- Are there any clues from the history or physical examination that suggest a particular diagnosis?

The most likely cause of persistent haematuria in a 35 years old woman is glomerulonephritis. IgA nephropathy is the most common primary glomerulonephritis worldwide. Other common primary glomerular diseases are thin-basement-membrane disease (benign familial haematuria) and hereditary nephritis (when there is a positive family history of renal failure). Polycystic kidney disease can also run in families and should be considered when there is a family history of renal failure.

Occasionally nephritis can be the primary presentation of systemic lupus in women. Systemic enquiry revealing arthralgia, alopecia, spontaneous abortion or sun sensitivity is suggestive of lupus. A recent upper respiratory infection suggests either IgA nephropathy or post-infectious glomerulonephritis (less common nowadays). Concurrent pyuria and dysuria point toward a urinary tract infection. A history of unilateral loin or groin pain could indicate ureteric obstruction with a stone or blood clot.

Physical examination may reveal palpable enlarged kidneys in polycystic kidney disease, but is usually unremarkable in glomerulonephritis.

The identification of the glomeruli as the source of bleeding is important for optimising the subsequent evaluation and for determining prognosis. The workup for serious urologic diseases is then unnecessary. Signs of

glomerular bleeding include red cell casts (essentially pathognomonic), dysmorphic appearance of the red cells, and significant proteinuria of greater than 500 mg/day. The absence of these findings does not exclude glomerular disease. On the other hand, the presence of blood clots in the urine makes haematuria unlikely to be glomerular in origin.

Transient haematuria due to fever, trauma or exercise is not uncommon. We should, therefore, confirm the presence of persistent haematuria by repeating urinalysis and microscopic examination on separate occasions. We should avoid urine tests close to the time of menstruation or soon after the end of a cycle.

The presence of crystals on urine microscopy, for example urate crystals, is very suggestive of renal stones as the cause of haematuria. Urine samples should also be sent for culture for bacteria and acid-fast bacilli especially in the presence of sterile pyuria. Since urologic malignancies are uncommon in patients below the age of 50 years, urine cytology is probably not necessary in these patients. The amount of protein should be measured especially when protein is found on urinalysis. Renal function should be checked. Impaired renal function indicates more advanced renal disease and warrants a thorough investigation to find the cause. In lupus nephritis, serum complement levels (C3 and C4) may be lowered, and, ANA and Anti-dsDNA may be raised. Serum IgA level (approximately 50%) may be raised in IgA nephropathy. HBsAg is positive in HBV-related glomerulonephritis.

Imaging techniques such as renal ultrasound and IVU are usually unremarkable in glomerulonephritis but are useful to detect renal stones, polycystic kidneys, and renal cell carcinoma.

Renal biopsy should be considered when glomerulonephritis is suspected and significant proteinuria and/or renal impairment present. Renal biopsy is not necessary when there is only isolated haematuria. IgA nephropathy and thin-basement-membrane disease are the most likely causes. The prognosis is usually good and treatment may not be required. ■

K K L Ho, MBBS(UK), MRCP, FHKCP, FHKAM(Medicine)
Specialist in Nephrology in Private Practice.

Correspondence to: Dr K K L Ho, Room 1305, Melbourne Plaza, 33 Queen's Road Central, Hong Kong.
