



Title	Referral guideline for investigation of haematuria in adults in primary care
Document Type	Guideline
Issue no	<i>Clinical Governance support team use</i>
Issue date	June 2014
Review date	June 2017
Distribution	Intranet, SCI gateway, Primary Care
Prepared by	Dr Paul Cormie & Mr Ben Thomas
Developed by	Mr Ben Thomas
Reviewed by	<i>Mr Ben Thomas</i>
Equality & Diversity Impact Assessed	

REFERRAL GUIDELINE FOR INVESTIGATION OF HAEMATURIA IN ADULTS IN PRIMARY CARE

- Haematuria can be classified as **Visible** or **Non-Visible (NVH)**
- Non visible haematuria can be further subdivided⁵:
 - **Symptomatic Non-Visible Haematuria (s-NVH)**: Symptoms such as voiding lower urinary tract symptoms (LUTS): hesitancy, frequency, urgency, dysuria.
 - **Asymptomatic Non-Visible Haematuria (a-NVH)**: Incidental detection in the absence of LUTS or upper urinary tract symptoms.

Anticoagulants

- Anticoagulants, including aspirin, predispose patients to haematuria only in the presence of urinary tract disease
- All patients with haematuria on anticoagulants should be investigated as detailed below.

1. NON-VISIBLE HAEMATURIA

Background

- Loss of red blood cells (RBCs) in the urine is physiologically normal in small amounts
- Definition of non-visible haematuria
 - Reagent strip (dipstick) testing: the presence of one + (rather than trace) should be considered positive³
 - Excludes haematuria visible to the naked eye
 - Confirmation with microscopy is not required⁵
- Prevalence of asymptomatic invisible haematuria varies between 0.19% and 21% depending on age and gender³.
- Studies show 14 – 30% have significant pathology¹

Conditions associated with non-visible haematuria

Controlled studies in community populations have shown that microscopic haematuria does not identify malignancy. Benign conditions affecting the glomeruli are the commonest cause

- Non-malignant renal disease
 - Thin glomerular basement membrane nephropathy
 - IgA nephropathy
- Urogenital tract inflammation
 - Urethritis, cystitis, prostatitis (bacterial and non-bacterial)
- Benign prostatic hypertrophy
- Calculi
- Malignancies of the bladder, prostate or kidney
- Tuberculosis of the urinary tract
- Physiological

Urinary dipsticks

Negative:

- If the stick is negative for blood then it is highly unlikely the patient has haematuria

Positive:

- If the stick is positive (1+ or more), a history should exclude menstruation or trauma (which includes vigorous exercise or sexual activity within 24 hours) and examination should exclude genital or urethral lesions.
- An MSSU should be sent for culture and microscopy to exclude infection.

Routine urine testing in asymptomatic subjects using dipsticks is not recommended. Urine should not be tested during menstruation and women should be asked about menstruation to exclude this as a possible cause of haematuria.

Not all red urine is due to blood and a dipstick will confirm if this is blood.

When do I refer?

- Any single episode of symptomatic NVH (in absence of UTI or other transient causes).
- In patients over 40, all cases of persistent asymptomatic NVH:
 - confirmed on at least 2 separate urine samples by urine dipstick testing. A single positive dipstick test is not sufficient to indicate pathology as many patients have transient haematuria²
 - microscopy and culture has excluded UTI
 - menstruation, trauma and genital lesions have been excluded.
- Patients under 40 with a-NVH do not require urological referral⁵
 - If BP <140/90; eGFR >60 and ACR <30 or PCR <50 then no further investigation needed.
 - If ANY one of the above is abnormal then refer to Nephrology
- UTI: If urine culture is positive, or menstruation/trauma is suspected, the MSSU should be repeated after an interval/treatment to exclude continuing haematuria but refer to urology anyway if
 - Females: 3 or more proven UTIs within 12 months
 - Males:
 - single episode of febrile UTI or pyelonephritis (ie associated loin pain and/or systemic illness) or
 - 2 proven lower UTI in absence of above features or
 - fails to respond to appropriate antibiotics⁴
- Urgency of referral
 - Symptomatic NVH - refer as urgent (but not “suspicion of cancer”)
 - Asymptomatic NVH -refer as routine

Assessment prior to referral

- History: urinary symptoms, PMH, Drugs, Family history.
Increased risk of cancer if
 - over 50,

- smoker,
- exposure to dyes, benzene, aromatic amines, analgesic abuse, pelvic irradiation.
- Examination: rash, blood pressure, oedema, murmurs, palpable kidney or bladder, prostate in men

Investigations prior to referral

- Blood
 - FBC and ESR
 - U&Es, creat, eGFR, PSA in men over 50
- Urine
 - Dipstick for protein and glucose
 - Culture and microscopy

2. VISIBLE HAEMATURIA

Background

- Urine discoloured
- In any person with painless visible haematuria the most important cause to exclude is malignancy.

When do I refer?

- Refer all to urology
 - 40 and over: “Urgent Cancer Suspected”
 - Under 40: Routine

Investigations prior to referral

- Blood
 - FBC and ESR
 - U&Es, creat, eGFR, PSA in men over 50
- Urine
 - Urinalysis for
 - blood (to exclude other causes of red urine – see Appendix 1)
 - protein (if possible test on sample once urine appears clear of blood)
 - Culture and microscopy

3. FURTHER INVESTIGATION

Appropriate further investigations (radiology, cystoscopy etc) will be arranged following referral to urology using the SCI Gateway proforma. The most appropriate imaging (Ultrasound, KUB X-ray or CT Urogram) will be decided and booked at triage in the Urology Department. Onward referral to urology out-patients or renal medicine will be made if indicated. Otherwise patients will be discharged back to primary care with results and follow up advice as appropriate.

4. FOLLOW-UP: PERSISTING HAEMATURIA AND NORMAL INVESTIGATIONS

Microscopic haematuria: if persistent microscopic haematuria is present with normal urological investigations, there is a 50% risk of underlying glomerular disease. Long term follow up to detect proteinuria, hypertension or deteriorating eGFR which suggest progressive renal disease is indicated. Recall annually for BP, U&E, eGFR, urinalysis for protein, MSSU. Refer renal physicians if suspect progressive renal disease.

Macroscopic haematuria: if no cause is found and episodes of macroscopic haematuria persist, full investigations should be repeated after 2 years.

References

1. Haematuria: Management of Adults in Primary Care. Barts and the London Clinical Effectiveness Group 2006
2. Scottish Intercollegiate Guidelines Network (SIGN). Diagnosis and Management of Chronic Kidney Disease. Edinburgh: SIGN; 2008. (SIGN Publication no. 103).
3. National Institute for Health and Clinical Excellence (NICE). Chronic Kidney Disease. London: NICE; 2008
4. Scottish Intercollegiate Guidelines Network (SIGN). Management of suspected bacterial urinary tract infection in adults. Edinburgh: SIGN; 2006. (SIGN Publication no. 88).
5. Joint Consensus Statement on the Initial Assessment of Haematuria. Renal Association/British Association of Urological Surgeons 2008

Guideline reviewed June 2014

Review due June 2017

Appendix 1

DIPSTICK TESTING FOR HAEMATURIA – FALSE NEGATIVE AND POSITIVE RESULTS

False Negative Urinalysis

- Reducing Agents
 - High dose Vitamin C
- Urine pH < 5.1

Causes of Red Urine/False Positive Urinalysis

Haem Positive

- Haemoglobinuria
 - Haemolysis
 - Sepsis
 - Dialysis
- Myoglobinuria
 - Ketoacidosis
 - Myositis
 - Trauma

Haem Negative

- Drugs
 - Sulfa drugs, Nitrofurantoin, Salicylates
- Foods
 - Beetroot, food colouring
- Metabolites
 - Porphyrin
- Others
 - Bleach / Oxidisers
 - Bacterial Peroxidases