

## MICROSCOPIC HAEMATURIA- OBSERVATIONS AT THE UROGYNAECOLOGY CENTRE

### Hypothesis / aims of study

Microscopic haematuria (MH) is a common incidental finding during routine health screening. Studies have shown a prevalence of 5%-31% (1). We followed our outpatients with microscopic haematuria for a period of 3 years. In most patients no particular cause or pathology was found in spite of the costly workup. Hence how far do we keep a follow up for these patients? What should be the criteria for re-evaluation and at what interval?

### Study design, materials and methods

It was a retrospective study and IRB approval was obtained. All new patients with micro-haematuria between Jan 2011 to Dec 2012 were reviewed. Initial evaluation with detailed history and routine gynaecological examination with midstream urine analysis and culture was done. The history and examination findings were recorded on a standardised urogynaecological proforma and case sheet which was used to gather data. The American Urological Association (AUA) defines MH as 3 or more RBC in a clean catch specimen on

at least two occasions with negative urine culture. As per our protocol, more than 3 RBC/HPF were considered as significant. After excluding transient causes such as menstruation, trauma, exercise, the patients with persistent MH were counselled and offered haematuria work up consisting of specialised urine tests (such as cytology and urine phase contrast) imaging study such as computerised tomography (CT Urogram) and diagnostic cystoscopy. Some patients underwent ultrasound and x-ray of the kidney- urinary bladder, instead of a CT Urogram due to reasons such as allergy to contrast or financial constraints. All patients were followed up at 6 monthly intervals with repeat midstream urine analysis.

### Results

Over 2 years 5092 new patients attended the outpatient clinic. Two hundred and twenty four patients were diagnosed with MH. Their records were studied further for risk factors and possible causes of haematuria. Almost 80% (170) patients were postmenopausal, Frequency, nocturia, urgency -urge incontinence, lump at introitus, incomplete voiding sensation, poor or intermittent flow were some of the presenting symptoms.

Amongst the risk factors 94.2% (211) were more than 35 years, 25.4% (57) had previous MH detected on routine health screening, 14.7% (33) had urinary tract infection within last 1 year, and 13.4% (30) complained of frank haematuria, 7.6% (17) had irritative voiding symptoms, 6.7% (15) had history of pelvic irradiation or chemotherapy and 3 patients were on anticoagulation medications.

On analysis 104 (46.4%) patients had no urinary symptoms and diagnosed as asymptomatic micro- haematuria, frequency urgency syndrome in 36 (16.1%) uterovaginal prolapse in 34 (15.2%), stress incontinence in 25 (11.2%), radiation cystitis in 4 patients and 12.9% (29) had renal pathology such as small calculi or cysts.

### Interpretation of results

After undergoing haematuria workup no specific cause or pathology was found in 57.1 % (128) patients. A total of 25.9 % (58) patients needed further urology and nephrology referral, with one case diagnosed as cancer of the bladder and one case of adrenal adenoma. Eighty four patients (37.5%) were discharged after resolution of haematuria. Sixty one patients were lost to follow up accounting to 27.2% of the patient population. The overall cost of investigations excluding the consultation and specialist referral charges ranged between \$1680.4 and \$3556.8 depending on patient status, whether being under team care or consultant led care.

### Concluding message

Through the study we intend to appraise the diagnostic outcome in women with asymptomatic MH, clarify the confusion on suggested workup, and decide on a long term follow up for those with negative evaluation. Studies have shown (2, 3) that low grade microscopic hematuria (<25 RBC/HPF) is an unreliable indicator of urothelial or renal malignant tumors and a very small proportion, 0.43% of patients with low grade MH subsequently develop cancers. However this may not be the case with renal calculi and cysts.

The AUA recent updated guideline recommends complete evaluation for all asymptomatic patients 35 years or more who have 3RBC/HPF or more on a single urine analysis result.

Further they advise a repeat work up within three to five years for all with persistent or recurrent MH after an initial negative workup.

Our institute launched a computerized result acknowledgement system in 2016. With this system we come across more abnormal results of urine analysis which need to be acted upon. At the end of our observations we were left with some unanswered questions. What is the importance of asymptomatic MH in postmenopausal women population with negative findings on haematuria workup? How do we address this uncertainty and controversy over the follow –up and out-come of patients with persistent MH with no identified pathology? How can we safely avoid un-necessary follow-up visits, avoid radiation exposure and invasive work up in this group of patients?

There is a need to simplify evaluation and the referral guidelines through further studies.

### References

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3. Murakami S, Igarashi T, Hara S, et al. Strategies for asymptomatic microscopic hematuria: a prospective study of 1,034 patients. J Urol. 1990; 144(1):99-101

Disclosures

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