

ASSOCIATIONS BETWEEN MICROSCOPIC HAEMATURIA AND INDIVIDUAL LOWER URINARY TRACT SYMPTOMS IN WOMEN

Hypothesis / aims of study

The prevalence of microscopic haematuria varies widely with age and gender, and may be increased in association with assorted genitourinary conditions [1]. Existing guidelines for investigation and management are based predominantly on data from men [2]. The clinical relevance of incidental haematuria among 'healthy women' without underlying renal tract disease is uncertain. A presentation of microscopic haematuria in association with lower urinary tract symptoms (LUTS) may be associated with over-investigation and over-diagnosis, with potential for harm [3]. We aimed to assess the association of incidental microscopic haematuria with individual LUTS, assessed using the International Consultation on Incontinence – Female Lower Urinary Tract Symptom (ICIQ-FLUTS) questionnaire.

Study design, materials and methods

Between October 2012 and March 2013 we recruited adult women presenting to general gynaecology and urogynaecology clinics with a variety of benign gynaecological conditions. Participants provided a clean catch mid-stream urine specimen, and one aliquot was sent for microscopy. Each participant completed the twelve item ICIQ-FLUTS questionnaire. Each item has five response options (for example "Do you have a sudden need to rush to the toilet to urinate?"; response options "never", "occasionally", "sometimes", "most of the time", "all of the time"). To maximise power these symptom scores were treated as continuous variables.

Microscopic haematuria was categorised into 'present' (classed as scanty, +, ++ or +++ or 'absent'. Women were excluded from the analysis with urinary calculi, any urinary tract tumour, neurological disease, voiding difficulty, current breast feeding or pregnancy. Mean symptom scores between women with and without microscopic haematuria were compared.

Results

In total 143 patients were recruited with a mean age of 49 years (range 22 to 82). Fifty three women (37%) had microscopic haematuria. There was no significant difference in mean age among women with and without haematuria (50 versus 48, $p=0.25$). There were statistically significant differences in symptom severity between groups for daytime frequency, unconscious incontinence, and straining (see table), of which only the association with unconscious incontinence remained significant after correction for multiple comparisons.

Interpretation of results

These data demonstrate quite widely varying associations between microscopic haematuria and individual LUTS. We found no evidence that haematuria was more common among women with LUTS in general, and indeed our results suggest that elevated daytime frequency may reduce diagnosis of haematuria. These results do suggest an association with unconscious incontinence, although conclusions are limited by the cross-sectional nature of the data, and limited available information about comorbidities and other mediators.

ICIQ-FLUTS Symptom Item		Microscopic Haematuria Absent Mean (SE)	Microscopic Haematuria Present Mean (SE)	<i>p</i>
2a	Nocturia	1.53 (0.16)	1.69 (0.20)	0.81
3a	Urinary Urgency	1.70 (0.15)	2.12 (0.19)	0.53
4a	Bladder Pain	1.04 (0.15)	0.81 (0.16)	0.49
5a	Daytime Frequency	1.22 (0.16)	0.92 (0.16)	0.02
6a	Hesitancy	0.83 (0.14)	0.75 (0.14)	0.63
7a	Straining	0.66 (0.13)	0.39 (0.12)	0.04
8a	Intermittency	0.94 (0.14)	1.00 (0.17)	0.23
9a	Urgency Incontinence	1.13 (0.15)	1.31 (0.18)	0.83
10a	Incontinence Episodes	1.58 (0.19)	1.91 (0.22)	0.25
11a	Stress Incontinence	1.17 (0.18)	1.75 (0.23)	0.25
12a	Unconscious Incontinence	0.46 (0.10)	0.87 (0.18)	0.001
13a	Nocturnal Enuresis	0.28 (0.09)	0.49 (0.13)	0.07

Table. Associations between microscopic haematuria and individual LUTS.

Concluding message

Incidental microscopic haematuria is not associated with most individual LUTS. Routine screening for microscopic haematuria is not currently recommended in general populations, and these results therefore suggest that urologists and urogynaecologists should be cautious about aggressive investigation of incidental haematuria when it presents in association with LUTS.

References

1. Curr Opin Obstet Gynecol. 2012;24(5):324–330
2. Int Urogynecol J Pelvic Floor Dysfunct. 2013;24(2):203-6
3. Int Urogynecol J Pelvic Floor Dysfunct. 2008;19(7):991-4

Disclosures

Funding: NIHR Imperial Biomedical Research Centre UK Medical Research Council **Clinical Trial:** No **Subjects:** HUMAN
Ethics Committee: London Chelsea Research Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes