

## OUTPATIENT FLEXIBLE CYSTOSCOPY: A FAST AND SAFE PROCEDURE

### Hypothesis / aims of study

The reported incidence of bacteriuria in women after cystoscopy ranges from 4.8 – 8% [1-3]. Yet, the reported studies on bacteriuria after cystoscopy were based on urinalysis results. We adopted sterile catheterization of urine sample and cultured the urine for organism in the present study. We wish to find out the true incidence of bacteriuria in women after cystoscopy and the bacteria type that is related. This study aims to evaluate the incidence of bacteriuria and safety on outpatient diagnostic flexible cystoscopy.

### Study design, materials and methods

This prospective observational study was carried out in the cystoscopy room at out-patient setting. Institutional review board's approval had approved the study. Seventy eight women had participated in this study after obtaining their consent. These women were recruited from the urogynaecology clinic and were planned for outpatient diagnostic cystoscopy for various lower urinary tract indications. Women with urinary tract infection pre-cystoscopy, neurogenic bladder, on antimicrobial therapy or refused to participate were excluded from this study. Urine for culture was collected by transurethral catheterization with a sterile 10F catheter after disinfecting the perineum before cystoscopy. Diagnostic cystoscopy was performed with either a 3mm, 3.9mm or 5mm flexible cystoscope under aseptic precautions. A second urine sample for culture using the similar method was collected after the procedure. Antibiotic prophylaxis was not administered to any of these women. Significant bacteriuria was defined as  $10^2$  cfu/ml or more of a single organism cultured. Assuming an infection rate of 10% and a statistical power of 80% with 95% confidence interval, a sample size of 78 subjects was required for this study. A patient satisfaction questionnaire regarding pain & procedure satisfaction was given to patients after treatment.

### Results

Among the 78 women who underwent cystoscopy, 5(6.4%) had significant bacteriuria and were asymptomatic. The most common organism cultured was E.coli in 4(80%) of the infected women. No other cystoscopic complication was observed. The demographic data showed mean age was 54.7 years old (range 27-80), mean parity was 2.8 (range 0-7). In the study group, 54(69.2%) women were post-menopause, 9(11.5%) women had diabetes mellitus and 22(28.2%) women had previous hysterectomy performed. Most common indications for cystoscopy were hematuria, and recurrent UTI, 48(61.5%) and 22(28.2%) women respectively. The most common cystoscopic diagnosis was normal finding in 59(75.6%) women. The mean time for the procedure was 4 minutes.

### Interpretation of results

We adopted a standard sterile catheterization technique for urine sample collection and cultured the urine for organism in the present study. The incidence of bacteriuria in our study was comparable to previous studies using urinalysis as results. We have concurred the incidence rate of infection developed after cystoscopy using strict criteria. We further elaborated that the infection source was E coli. Furthermore, in our setting, the cystoscopy was carried out in an out-patient set-up. The safety on sterilization on the cystoscope itself was further ensured by this study. On the patient feedback, flexible cystoscopy is a well accepted procedure by patients.

### Concluding message

The incidence of bacteriuria following outpatient flexible cystoscopy is low and the procedure is safe and short. Antibiotics prophylaxis post cystoscopy may not be needed but it is recommended that all women should be counseled about UTI.

### References

1. Almallah YZ, Rennie CD, Stone J, Lancashire MJ (2000) Urinary tract infection and patient satisfaction after flexible cystoscopy and urodynamic evaluation. *Urology* 56 (1):37-39
2. Clark KR, Higgs MJ (1990) Urinary infection following out-patient flexible cystoscopy. *British journal of urology* 66 (5):503-505
3. Turan H, Balci U, Erdinc FS, Tulek N, Germiyanoglu C (2006) Bacteriuria, pyuria and bacteremia frequency following outpatient cystoscopy. *International journal of urology : official journal of the Japanese Urological Association* 13 (1):25-28. doi:10.1111/j.1442-2042.2006.01219.x

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Chang Gung Memorial Hospital ethical board **Helsinki:** Yes **Informed Consent:** Yes