

## Urosepsis and the Urologist!

J. Ryan, E. O'Neill, L. McLornan  
Connolly Hospital, Blanchardstown, Dublin, Ireland

**Introduction:** Urosepsis is defined as sepsis caused by an infection in the urogenital tract. Studies have reported that up to 86% of patients admitted with urosepsis have an underlying urological condition (1,2). There has been no study to date in Ireland assessing the urological contribution to urosepsis rates in patients admitted to hospital. The purpose of this study is to investigate the aetiology of urosepsis and the associated complications.

**Methods:** A total of 2679 urine cultures and 654 blood cultures performed in Connolly Hospital Emergency Department were reviewed between 2016 and 2018. Patients were included if they had a matching urine and blood culture performed within 24 hours of admission. A retrospective chart review was performed for all patients included in the study.

**Results:** Our study included 85 patients admitted with these strict criteria of urosepsis between 2016 and 2018. The mean age was 70.3 years (21–100). 61% (n = 52) of patients were female. 18% (n = 16) of patients had a long-term indwelling catheter. 11.8% (n = 10) of patients admitted with urosepsis had an underlying urological condition. The most common urological cause of urosepsis in this study was obstructive uropathy due to benign prostatic hyperplasia. 4.7% (n = 4) of patients died as a result of urosepsis during their admission. Complications as a result of urosepsis included a prostatic abscess, psoas abscess, ileus, infected renal cyst and emphysematous pyelonephritis.

**Conclusions:** In this study, the majority of patients admitted with urosepsis did not have an underlying urological condition. Early imaging should be performed to outrule any treatable urological cause.

### References

- Hofmann W. [Urosepsis and uroseptic shock]. *Z Urol Nephrol*. 1990 Jun; 83(6):317–324.
- Serniak PS, Denisov VK, Guba GB, Zakharov V V, Chernobrivtsev PA, Berko EM, *et al.* [The diagnosis of urosepsis]. *Urol Nefrol (Mosk)*. 1990;(4):9–13.

## Development of the RUHFI-Q Questionnaire to Quantify the Impact of Recurrent Urinary Tract Infections on Quality of Life

S.M. Croghan<sup>1</sup>, J. O'Donovan<sup>1</sup>, T. McBride<sup>1</sup>, C. Albu<sup>1</sup>, J.S.A. Khan<sup>1</sup>, D. McNicholas<sup>1</sup>, S. David<sup>1</sup>, N. Nabi<sup>1</sup>, G. Nama<sup>1</sup>, T. Jacob<sup>1</sup>, H.D. Flood<sup>1</sup>, S.K. Giri<sup>1</sup>

<sup>1</sup>Department of Urology, University Hospital Limerick, Dooradoyle, Co. Limerick

**Background:** Recurrent urinary tract infections (rUTIs) affect many adult women. Whilst several questionnaires evaluating lower urinary tract symptoms in females exist,<sup>1–3</sup> no established instrument quantifies symptom severity or quality of life (QoL) impact specific to rUTIs. We aimed to design such a tool.

**Methods:** Best practice guidelines in health-related survey design<sup>4</sup> were reviewed. A literature review informed creation of an interview guide. Following ethical approval, 10 female patients (23–38 years) with rUTIs were invited to participate in phase 1 of questionnaire design; all agreed. Individual semi-structured interviews were conducted exploring the impact of rUTIs on patients' QoL. Interviews were repeated with 5 staff members (3 urology nurses and 2 consultant urologists). Responses were recorded and thematic analysis

performed, to inform the design of a new questionnaire. A further 20 patients were recruited to assess feasibility of completion.

**Results:** All participants found available questionnaires unfit for assessment of rUTI-related QoL. Multiple themes emerged as integral to an rUTI questionnaire, including: frequency of UTIs, duration of symptoms, time to full recovery, specific symptoms of UTI, constitutional symptoms, impact on work/education, impact on leisure activities, impact on interpersonal relationships, impact on sexual relationships, psychological aspects and implications of treatment. Data saturation was reached. Based on responses we drafted the **Recurrent Urinary tract infection Health and Functional Impact Questionnaire (RUHFI-Q)**, comprising 10 domains and 26 items.

**Conclusions:** We propose a novel self-administered questionnaire, the RUHFI-Q, as an instrument to standardise evaluation of the QoL impact of rUTIs. Further validation studies are in progress.

### Bibliography

- Kelleher CJ, Cardozo LD, Khullar V and Salvatore S. A new questionnaire to assess the quality of life of urinary incontinent women. *Br J Obstet Gynaecol*. 1997; 104: 1374–1379.
- Abrams P, Avery K, Gardener N, Donovan J and Board IA. The International Consultation on Incontinence Modular Questionnaire: www.icicq.net. *J Urol*. 2006; 175: 1063–6; discussion 6.
- Clayson D, Wild D, Doll H, Keating K and Gondek K. Validation of a patient-administered questionnaire to measure the severity and bothersomeness of lower urinary tract symptoms in uncomplicated urinary tract infection (UTI): the UTI Symptom Assessment questionnaire. *BJU Int*. 2005; 96: 350–359.
- Mc Coll E, Jacoby A, Thomas L, *et al.* Design and use of questionnaires: a review of best practice applicable to surveys of health service staff and patients. United Kingdom: NHS Health Technology Assessment, 2001.

## Improvement in the accuracy of acute stone referrals following the introduction of a standardised referral proforma

C. Fenlon<sup>1</sup>, E.J. Redmond<sup>1</sup>, R.J. Flynn<sup>1</sup>, A.Z. Thomas<sup>1</sup>, L.G. Smyth<sup>1</sup>, R.P. Manecksha<sup>1,2</sup>

<sup>1</sup>Department of Urology, Tallaght University Hospital; <sup>2</sup>Department of Surgery, Trinity College Dublin

**Introduction:** When patients are referred for specialist care from an outside hospital, referral letters are often the only source of relevant clinical information. It is essential therefore, that the information is presented clearly, concisely and precisely to facilitate appropriate triage of that patient. The aim of this study was to assess whether the introduction of a referral proforma could improve the quality of referrals for acute ureteric colic.

**Methods:** Fifty consecutive referral letters for patients with acute ureteric colic were audited in a structured manner. Following this, a standardised referral proforma was introduced. After a six week induction period, seventeen consecutive referral proformas were re-audited using the same variables.

**Results:** Most referrals contained information regarding the size and location of the stone. However proformas were more likely to contain other relevant clinical information such as creatinine (100% vs 72% p = <0.001), white cell count (100% vs 68%, p = <0.001) and temperature (94.1% vs 44%, p = <0.001). Proformas were also more likely to include the patients' medical history (100% vs 30%, p = <0.001) and medications (100% vs 32%, p = <0.001). Due to a prompt on the proforma, these patients were also more likely to have a plain x-ray performed to facilitate the follow up of conservatively managed stones (58.8% vs 36%, p = 0.09).

**Conclusion:** The introduction of a referral proforma has improved the quality of acute stone referrals to our department. The proforma is also a useful tool for audit and could be adapted to create an electronic referral system.

### Trends in Uropathogen Culture and Resistance Patterns over a 15-Year Period in Mid-West Ireland

S.M. Croghan<sup>1</sup>, R. Monahan<sup>2</sup>, D. McNicholas<sup>1</sup>, J.S.A. Khan<sup>1</sup>, T. Jacob<sup>1</sup>, G. Nama<sup>1</sup>, M. Akram<sup>1</sup>, H.D. Flood<sup>1</sup>, L. Power<sup>2</sup>, N. O'Connell<sup>2</sup>, S.K. Giri<sup>1</sup>  
<sup>1</sup>Department of Urology, University Hospital Limerick, Dooradoyle, Co. Limerick; <sup>2</sup>Department of Microbiology, University Hospital Limerick, Dooradoyle, Co. Limerick

**Introduction:** Awareness of microbiological epidemiology regarding sensitivity patterns is essential to guide urologists in appropriate antibiotic selection for both prophylaxis and treatment. This is particularly important given global concerns regarding levels of resistant organisms.

**Methods:** We retrospectively reviewed an electronic database, identifying mid-stream urine (MSU) specimens processed in a tertiary centre's microbiology laboratory over 15 years (2004–2018). We included MSUs showing pure growth of a typical uropathogen in a symptomatic patient or pure growth of an atypical uropathogen with a colony count >100,000 cfu/ml and microscopic pyuria. We analysed 24,345 sensitivity results. We reviewed data for trends in organism predominance and resistance patterns.

**Results:** Of 1,778 pure growths studied, the most common uropathogens overall were *E.coli* spp. (58.94%), *Klebsiella* spp. (8.89%), *Enterococcus* spp. (7.76%), *Proteus* spp. (6.3%) and *Pseudomonas* spp. (4.5%). *Escherichia coli* species were consistently the most common isolate, accounting for 52.2–69.8% of isolates per studied year. ESBL producers formed 1.6% of MSU *E.coli* spp. in 2010, with a stepwise increase to 14.5% in 2018. Across the study time-frame, significant but relatively stable overall resistance patterns, where tested, were noted for Cephalexin (~24%), Trimethoprim (~34%) and Ciprofloxacin (~22%). Increasing resistance of uropathogens overall (2004/2006–2018) was noted for Augmentin (17.8% to 23.8%), Nitrofurantoin (11.2 to 16.6%) and Gentamicin (8.9% to 10.5%).

**Conclusions:** Significant levels of resistance exist amongst uropathogens to commonly-prescribed antibiotics. This highlights the importance of culture results and of adherence to principles of antimicrobial stewardship. Locally, Gentamicin monotherapy may be insufficient peri-operative prophylaxis for urological procedures.

### What Does Your Pelvic Floor Do For You?: Knowledge of the Pelvic Floor in Female University Students

L. Falvey<sup>1</sup>, F. Salameh<sup>2</sup>, O. O'Sullivan<sup>2</sup>, B. O'Reilly<sup>1,2</sup>  
<sup>1</sup>School of Medicine, University College Cork; <sup>2</sup>Department of Obstetrics and Gynaecology, Cork University Maternity Hospital

**Background:** Pelvic floor dysfunction (PFD) is a healthcare and economic burden. Engagement in pelvic floor muscle exercises (PFMEs) can both prevent and treat PFD [1,2]. Knowledge of the pelvic floor in women guides health seeking behaviour, prevention and treatment [3]. Assessing the current level of knowledge in young women will inform healthcare strategies for effective management and prevention pelvic floor dysfunction. [1,2,3]

**Aim:** To assess the knowledge of the pelvic floor in female university students.

**Methods:** We carried out a cross sectional study in the form of an online questionnaire. The survey was based on the validated Prolapse and Incontinence Knowledge Questionnaire (PIKQ) and was extended to meet the objectives of this study.

**Results:** 938 responses were received. 72.9% (n = 663) of students had never received information on the pelvic floor. 66% of respondents (n = 564) said they understood what was meant by PFMEs, however 72.5% (n = 621) incorrectly identified how to perform PFMEs. Of the 43.1% (n = 225) who reported exercising their pelvic floor, 61% (n = 138) incorrectly identified how to perform PFMEs. There was statistically significant difference ( $p < 0.001$ ) in the overall knowledge between students in the School of Medicine and Health (n = 307, Mean = 11.8, SD = 2.35) and Other Schools (n = 529, Mean = 9.39, SD 2.88).

**Conclusion:** Low levels of knowledge of the pelvic floor are associated with a high prevalence of PFD. By simply increasing awareness of the pelvic floor and PFMEs, we can reduce symptoms of PFD and thus improve quality of life [3]. Further studies are required to improve knowledge of the pelvic floor and encourage PFMEs in young women.

### References

- Hagen S, Glazener C, McClurg D, Macarthur C, Elders A, Herbison P, Wilson D, Toozs-Hobson P, Hemming C, Hay-Smith J, Collins M. Pelvic floor muscle training for secondary prevention of pelvic organ prolapse (PREVPROL): a multicentre randomised controlled trial. *The Lancet*. 2017 Jan 28;389(10067):393–402.
- Dumoulin C, Hay-Smith J, Habée-Séguin GM, Mercier J. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women: A short version Cochrane systematic review with meta-analysis. *Neurourology and urodynamics*. 2015 Apr 1;34(4):300–308.
- Berzuk K, Shay B. Effect of increasing awareness of pelvic floor muscle function on pelvic floor dysfunction: a randomized controlled trial. *International Urogynecology Journal*. 2015 Jun 1;26(6):837–844.

### 5-year retrospective review of waiting times for patients diagnosed with bladder cancer at a single institution in an effort to improve the patient pathway

N. O'Reilly, F. O'Brien, K. O'Connor  
 Dept of Urology, Cork University Hospital, Wilton, Cork

**Background:** Delay in the diagnosis of bladder cancer increases the risk of death from disease independent of tumor grade and or disease stage.

Current NICE guidelines recommend that patients with a suspicion of bladder cancer to be seen in clinic within two weeks. We assessed waiting times for patients diagnosed with bladder cancer and evaluated impact on patient outcomes with a view to improving the patient pathway.

**Methods:** The Pathology department provided details of patients with a diagnosis of urothelial cancer in last 5 years. Time from receipt of referral to initial review, investigations and TURBT was recorded. Mode of presentation, pathology stage and grade were evaluated.

**Results:** Of the 89 cases of bladder cancer, 51 and 5 were referred with visible haematuria and non-visible haematuria respectively. 27 had incidental findings on imaging, 6 were admitted through the emergency department. The overall mean time from referral to first appointment was 63.57 days and 130.64 days from referral to TURBT. 46 (76.66%) patients presented with non-muscle invasive bladder cancer and 14 (23.33%) with T2 or greater.