



Editorial – referring to the article published on pp. 832–837 of this issue

Urogenital Infections: The Pivotal Role of the Urologist

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Urogenital infections are a major concern for urologists. Many urologic patients are treated because of a urogenital infection and many are exposed to infection by urologic interventions. Although every urologist's interest may not explicitly be directed towards urogenital infections, a founded knowledge and experience of diagnostics, therapy, and prevention are indispensable.

Because management improvement is a pertinent issue in all medical disciplines, it is necessary to analyse the present situation as accurately as possible to establish guidelines for improvement. These guidelines must be implemented and their effectiveness must be verified. The guidelines should be adjusted if necessary and then the cycle starts again. How can we adapt these general management rules to the subject of urogenital infections?

1. EAU guidelines on management of urinary and male genital infections

The updated European Association of Urology (EAU) guidelines [1] on urogenital infections provide sufficient background information and advice on diagnosis and management of these infections to encourage European urologists and to challenge their pivotal role in this field. Hopefully, the guidelines may assist not only the urologist but also physicians from other medical specialities in their daily practice. EAU guidelines on special forms of urogenital infections, such as sexually transmitted

infections [2], urogenital tuberculosis [3], and urogenital schistosomiasis [4] have been published separately.

Urologists should be encouraged to accept their pivotal role in treatment and prevention of such infections. This is especially true in the prevention of infections due to urologic interventions and in the management of all kinds of urinary tract infections (UTIs) with underlying structural and functional abnormalities within the urinary tract. In this editorial only some aspects can be highlighted.

2. Prophylaxis in urologic interventions

Most of nosocomially acquired UTIs (NAUTIs) in urologic patients are due to urologic interventions or catheter-related problems (manuscript in preparation). This is one of the main results of an Internet-based (by means of UROWEB, the Internet portal of the EAU) multicentre study performed by the ESIU in collaboration with other urologic and infectious diseases societies throughout Europe (2003), then including Asia (2004), and finally also urologists from Latin America (2005). Obviously the aim of prophylaxis in urology is to prevent any infective complication resulting from diagnostic and therapeutic procedures. Antibiotic prophylaxis is only one of several measures to prevent infections and can never compensate for poor hygiene and operative technique. Despite a vast number of studies, the evidence on the best choice of

antibiotic and prophylactic regimen, however, is still limited for most urologic interventions. It is therefore in the urologist's own best interest to perform meaningful and valid studies that reflect the daily practice.

The Malmö and Lund urologists have undertaken this task, investigating the timing and risk factors of a single-dose antibiotic prophylaxis in core prostate biopsy [5]. They demonstrated that a single pre-operative, sufficiently high dose of an oral fluoroquinolone any time within 2 h before the procedure is highly effective to prevent infectious complications, if patients at risk are identified beforehand and not included in this short-term prophylactic regimen, but rather treated accordingly in the first place. To exclude patients with bacteriuria, one of the major risk factors, the two groups demonstrated that the nitrite test was equally effective as the more time-consuming traditional urine culture. In their series of a total of 1322 prostate biopsies a false-negative nitrite test played only a minimal role. Thus, by their single-dose regimen the infection rate can be kept at about 1% if special attention is given to individual risk factors, such as bacteriuria identified either by urine culture or urinalysis including the nitrite test, patients with indwelling urinary catheter for acute urinary retention, history of repeated UTIs, prostatitis, or febrile genitourinary infection, etc.

3. Complicated UTIs with or without pyelonephritis

This category comprises a much lower number of patients as those with uncomplicated UTIs, who usually only need appropriate antibiotic therapy. Sometimes the complicated UTIs are also categorised as urologic infections because per definition there are always underlying conditions complicating treatment and clinical course. Many of these complicating factors need specific urologic treatment. However, many physicians are not aware of that. The specific role of the urologists is to rouse awareness and to continuously teach their colleagues in other medical specialities. Optimal results for these patients sometimes can only be achieved in collaboration with other specialities.

4. Catheter-associated UTIs

Transurethral urinary catheters are widely used in hospitals and institutions such as nursing homes.

However, we have to face the fact that too many urinary catheters are used for too long a time. Alternative methods, such as intermittent catheterisation or diapers, which might be more appropriate in special situations, are often not used because they are more time consuming or expensive or both. The use of catheters sometimes seems to be more convenient, but it also creates many problems. A catheter-associated UTI is the main cause of NAUTIs. Gratefully, in many cases the patient remains asymptomatic as long as the catheter is functioning well. Sooner or later, however, the catheterised urinary tract becomes infected or at least colonised with a variety of uropathogens. As soon as these patients are exposed to any kind of antimicrobial therapy, resistant and often multiresistant pathogens are selected. From this source the multiresistant pathogens are spread to other patients by cross-infection or contamination. This vicious cycle can only be interrupted by correct indication for catheterisation and catheter care, prudent antibiotic policy, and optimal hygienic measurement. This is another example of the way in which the urologist can have a pivotal role in preventing the emergence of antimicrobial resistance. But first the urologist must follow these rules exemplarily before he can teach colleagues of other specialities.

5. Urosepsis

About 20–30% of all sepsis cases within a hospital originate from the urogenital tract. About half of them can be considered as primary sepsis due to the combination of obstruction within the upper or lower urinary tract (e.g., by stone, catheter) and infection, but the other half may be induced by any urologic intervention. This severe and often life-threatening condition is a paradigm for the need of optimal collaboration between various specialities because the fate of the patient will be determined sometimes within the first hours. During that time the patient needs optimal collaborative treatment from the intensivist, the infectiologist, and the urologist. Each partner has to be aware of the specific role of the other discipline. That means the urologist must be familiar with the main tasks of intensive medicine as well with that of infectiology/clinical microbiology in this kind of situation and vice versa.

Unfortunately, many urologists have reported that they were consulted about these patients only after primary therapy had failed and after initial sepsis had turned into severe sepsis, septic shock, or even multiorgan failure. On the other hand,

valuable time is sometimes wasted by the urologist if urosepsis was induced by urologic interventions and not enough attention was paid to the first clinical signs of urosepsis. Compared with other septic conditions, the mortality of urosepsis is usually lower. However, the outcome of urosepsis depends very much on whether all necessary measurements were taken at the right time. Therefore, this result can be used as a quality marker of a hospital. Each fatal case should therefore be analysed carefully as to management drawbacks.

6. Prostatitis—still an enigma

The prostatitis syndrome is one of the most common entities encountered in urologic practice. It can influence up to 50% of all men at some period of their life and prostatitis is the most common urologic diagnosis in men younger than 50 years of age. Surprisingly, the American National Center for Health Statistics reported that in some years, there were more physician visits by patients suffering from prostatitis than from BPH or cancer of the prostate [6–8].

Unfortunately, such data are missing from most European countries. Therefore, it is meritorious that the Italian urologists started a countrywide assessment to analyse the situation in Italy. Other European countries should follow. Only if we have analysed the dimensions of this burden, will health care politicians pay attention. Therefore, this should be one of the foremost tasks of the European urologists.

On the other hand, management of these patients is still an enigma for the patient and the urologist as well. We should put every effort into improving diagnostic and treatment modalities, which can only be done successfully on a multicentre and European level. The National Institutes of Health in the United States has stimulated and supported their urologists to deal with this problem on all clinical and scientific levels. Such an initiative is still missing in Europe.

7. Conclusion

Because urogenital infections are a major issue for every urologist, knowledge arising mainly from clinically oriented research, implementation of relevant guidelines, and teaching are the three pillars for improving therapy and prevention. The European urologists need to be encouraged to challenge their pivotal role in the management of these infections.

References

- [1] Naber KG, Bjerklund-Johansen TE, Bishop MC, et al. and the Urinary Tract Infection (UTI) Working Group of the Health Care Office (HCO) of the European Association of Urology (EAU). EAU guidelines for the management of urinary and male genital tract infections. European Association of Urology, 2006.
- [2] Schneede P, Tenke P, Hofstetter AG, Members of the Urinary Tract Infection (UTI) Working Group of the Health Care Office (HCO) of the European Association of Urology (EAU). Sexually transmitted diseases (STDs)—a synoptic overview for urologists. *Eur Urol* 2003;44:1–7.
- [3] Çek M, Lenk S, Naber KG, et al., the Members of the Urinary Tract Infection (UTI) Working Group of the European Association of Urology (EAU) Guidelines Office. EAU guidelines for the management of genitourinary tuberculosis. *Eur Urol* 2005;48:353–62.
- [4] Bichler K-H, Savatovsky I, Naber KG, et al. EAU guidelines for the management of urogenital schistosomiasis. *Eur Urol* 2006;49:998–1003.
- [5] Lindstedt S, Lindström U, Ljunggren A, Wullt B, Grabe M. Single-dose antibiotic prophylaxis in core prostate biopsy: impact of timing and identification of risk factors. *Eur Urol* 2006;50:832–7.
- [6] Schaeffer AJ. Epidemiology and demographics of prostatitis. *Eur Urol Suppl* 2003;2(2):5–10.
- [7] McNaughton-Collins M, Stafford RS, O’Leary MP. How common is prostatitis? A national survey of physician visits. *J Urol* 1998;159:1224–30.
- [8] National Centre for Health Statistics (1993). Advanced data from vital and health statistics: 61–70. Hyattsville, MD, National Centre for Health Statistics, Vital Health Statistics. 1993;7:16.