

·Clinical Experience·

## Chronic prostatitis in Korea: a nationwide postal survey of practicing urologists in 2004

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### Abstract

**Aim:** To examine the diagnosis and treatment of chronic prostatitis by means of a nationwide postal survey of practicing urologists in 2004. **Methods:** A random sample of 850 Korean urologists from the Korean Urological Association Registry of Physicians were asked to complete a questionnaire that explored practicing characteristics, attitudes and diagnostic and treatment strategies in the management of chronic prostatitis. **Results:** Of the 850 questionnaires sent, 302 were returned (response rate 35.5 %) and 275 were included in the final analysis. More than 50 % believed in a multifactorial etiology for chronic prostatitis and 52 % considered chronic abacterial prostatitis to be bacterial in nature. For routine diagnostic assessment, the most commonly used tests were reported to be urinalysis (95.3 %), analysis of expressed prostatic secretions (89.5 %) and digital rectal examination (81.1 %). Only a few urologists use specific lower urinary tract cultures. Symptom assessment according to the National Institute of Health–Chronic Prostatitis Symptom Index was less frequently used (12.7 %). First choices for therapy included antibiotics (96.4 %), alpha-blockers (71.6 %) and sitz baths (70.5 %). If unsuccessful, urologists frequently continued to prescribe a second course of either alpha-blockers (69.5 %) or antibiotics (57.8 %). **Conclusion:** These data provide a picture of current practice regarding the management of chronic prostatitis in Korea. The diagnostic and treatment practices for prostatitis do not follow standard textbook algorithms. Further studies are needed to elucidate the etiology and pathogenesis of chronic prostatitis and to establish guidelines for its diagnosis and treatment. (*Asian J Androl 2005 Dec; 7: 427–432*)

**Keywords:** prostatitis; chronic pelvic pain syndrome; questionnaire; diagnosis; treatment

### 1 Introduction

Chronic prostatitis is a common disease and an important urological problem in adult men of all ages. This clinical syndrome is characterized by pain in the perineum,

pelvis, suprapubic area, or external genitalia and variable degrees of voiding and ejaculatory disturbance [1]. This constellation of symptoms would suggest the presence of an infection in the prostate gland. However, the pathological basis for chronic prostatitis has not yet been satisfactorily defined, since a significant proportion of men with symptoms suggestive of chronic prostatitis cannot be demonstrated to have inflammatory cells in expressed prostatic secretion (EPS) [2]. In last decade, diagnostic and treatment modalities in patients presenting with symptoms of chronic prostatitis have changed. At the pivotal

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1995 National Institutes of Health Workshop on Chronic Prostatitis, a consensus was reached on a new definition and classification system for prostatitis, for use in both clinical practice and research studies [3, 4].

To date, several surveys of urologists have been conducted in order to gather their practice characteristics or to assess diagnosis and treatment patterns regarding prostatitis [5–10]. However, because studies have never examined the diagnostic strategies or treatment regimens of this common prostate disease in Korea, the Korean circumstances surrounding chronic prostatitis still have to be clarified. In addition, the Korean health insurance system is different from that in other countries. For example, although most medical costs are covered by public or corporate health insurance, the four-glass test is not currently covered. Therefore, Korean urologists might have different methods of diagnosing and treating chronic prostatitis. In order to define the current spectrum of practices of Korean urologists regarding the management of chronic prostatitis, we initiated a postal survey for the determination of practice characteristics and attitudes about prostatitis and diagnostic and therapeutic patterns. We also compared our results with those of previous surveys to evaluate the characteristics of practice patterns in Korea.

## 2 Materials and methods

Probability samples were drawn from the Korean Urological Association Registry of Physicians, and the survey was mailed to a random sample of 850 members in June 2004. Selected physicians received a mail which consisted of a cover letter describing the purposes of the survey, the survey itself and a postage-paid return envelope. A letter indicated that our department was conducting a study on practice patterns in the treatment of prostatitis. Demographic and professional data from the urologists were collected, including age, sex, percentage of time devoted to clinical practice and type of practice. The questionnaire also requested information on etiology, diagnosis and treatment practices. Questionnaires were returned anonymously by mail.

Descriptive analyses were completed using SPSS 10.0 (SPSS, Inc., Chicago, IL, USA). A response was considered invalid if the question was left unanswered or if more than one answer was marked. Responses that generated a continuous distribution, such as numbers of patients seen or procedures performed that were not

normally distributed, were summarized by medians and interquartile ranges (IQRs), representing the 25th and 75th percentiles of the distributions.

## 3 Results

### 3.1 Studied population

The returned questionnaires were received from 302 members (response rate 35.5 %). Because some urologists did not answer correctly, only 275 (mean age 44.0 years with a range of 29–80 years) were included in the final analysis as respondents. Of the respondents, 36.7 % were less than 40 years of age, 26.4 % were (40–49) years and 26.9 % were 50 years or older; considering their working senctions, 60.7 % worked at private clinics, 15.3 % at general hospitals and 23.6 % at university hospitals; as for their experiences, 49.1 % were practicing urological specialists with less than 10 years' experience, whereas the other 50.9 % had experience of 10 years or more.

### 3.2 Etiology

Among respondents, 62.5 % believed in a multifactorial etiology for chronic prostatitis. Other sole etiologies that the responding physicians claimed were as follows: nonbacterial infection (22.5 %), bacterial infection (8.0 %), pelvic disorders (6.5 %) and psychosomatic causes (0.4 %). When asked about the role of hidden bacteria as the etiology of chronic abacterial prostatitis (category III), about half (52.0 %) of the respondents believed that hidden bacterial infection was, in fact, the etiology of chronic abacterial prostatitis.

### 3.3 Diagnosis

Table 1 showed how often study subjects used various examinations and tests for the initial evaluation of men who had symptoms suggestive of chronic prostatitis. For routine diagnostic assessment, the most commonly used tests were urinalysis (95.3 %), EPS (89.5 %) and digital rectal examination (DRE) (81.1 %). However, less than one-third of urologists employed cultures of EPS or other culture tests. Although sonography of the prostate was performed by 52.0 % of the urologists, less than 10.0 % of the urologists utilized other imaging studies, such as abdominal X-rays (6.9 %), intravenous urography (1.1 %) or renal sonography (2.5 %). Prostate-specific antigen examinations were performed in 22.2 % of diagnoses, but cytologic examination was performed

in only 4.4 %. Uroflowmetry and post-void residual measurement were performed in 16.7 % and 18.2 %, respectively, but urodynamics in only 0.7 %. Symptom assessment according to the National Institute of Health–Chronic Prostatitis Symptom Index was used in only 12.7 %.

Among the respondents, 44.4 % believed that EPS cultures or other localizing tests helped to differentiate or diagnose the various types of chronic prostatitis. However, when answering the questions “When evaluating a patient with prostatitis, how often did you perform the Meares-Stamey four-glass test”, only 10.2 % reported “almost always” performing the test. Other urologists reported that they performed the four-glass test “more than half the time” (1.5 %), “about half the time” (3.3 %), “less than half the time” (9.5 %), “rarely” (38.9 %) and “never” (36.7 %).

### 3.4 Treatment

Treatments for chronic prostatitis were shown in Figure 1. The first choice for primary medical therapy was antibiotics (96.4 %). The most frequent drug type for initial use was fluoroquinolones (75.3 %), followed by doxycycline (12.7 %) and trimethoprim/sulfamethoxazole (TMP-SMX) (8.0 %). The next most commonly used medical therapies were alpha-blockers (71.6 %) and non-steroidal anti-inflammatory drugs (NSAIDs) (57.5 %). The most commonly used non-pharmacological therapy strategy was sitz bath (70.5 %) and prostatic massage (50.9 %). When asked about duration of primary treatment, the majority of responses was 4 weeks (34.2 %) or 8 weeks (20.7 %). Most respondents (80.6 %) reported that success rates of primary treatment in chronic prostatitis were 30 %–80 % and most (76.6 %) reported that the recurrence rates 6 months after successful treatment were 20 %–60 %.

Even after the primary treatment was not successful, urologists frequently continued to prescribe a second course with alpha-blockers (69.5 %), antibiotics (57.8 %) and NSAIDs (45.1 %). Other non-pharmacological therapies included sitz bath (59.3 %), prostatic massage (44.7 %) and extracorporeal magnetic innervation therapy (20.7 %). The type of antibiotics used for second-course therapy was different from that used for first-course therapy in 40.7 % of responses, but, interestingly, 16.0 % reported that they would give another course of the same antibiotic. When asked about duration of secondary treatment, the response was variable, but the predominant response was 4 weeks (26.5 %) or 8 weeks (26.5 %).

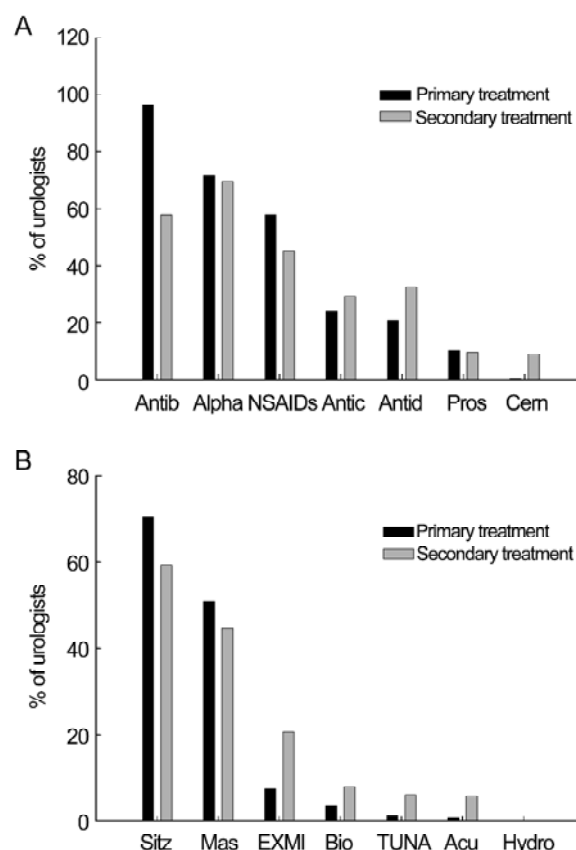


Figure 1. Primary and secondary treatments given by Korean urologists for chronic prostatitis. (A): medical therapy; (B): non-pharmacological therapy. Antib: antibiotics; Alpha: alpha blockers; NSAIDs: non-steroidal anti-inflammatory drugs; Antic: anticholinergics; Antid: antidepressants; Pros: Proscar; Cern: cernitin pollen extract; Sitz: sitz bath; Mas: prostatic massage; EXMI: extracorporeal magnetic innervation therapy; Bio: biofeedback; TUNA: transurethral needle ablation; Acu: acupuncture; Hydro: hydrodistension.

## 4 Discussion

Prostatitis is an important and common medical male health issue [11, 12]. The present survey has confirmed that prostatitis is a common clinical condition in Korea. This questionnaire survey of diagnostic and treatment practices for prostatitis demonstrates some variability in clinical understanding and very little compliance with the textbook categorization of prostatitis, which is based on semen analysis and culture. However, this first look at the management of this disease in Korea confirms that there is a relative uniformity in medical approaches to this condition, especially compared to the previous stud-

ies performed in other countries [5–10].

It is generally thought that it is important to differentiate between bacterial and nonbacterial prostatitis and between inflammatory and noninflammatory prostatitis. To differentiate the different types of prostatitis, the localization test suggested by Meares and Stamey [13] may be performed. However, as the localization test is difficult to interpret, time-consuming, relatively expensive and often uncomfortable for the patients, it is not surprising that clinicians rarely perform it. Dai *et al.* [14] suggested that the quantitative determinations of endotoxins in the EPS a faster, cheaper and more easily attainable approach than culture and some other special examinations. Recently, Tc-99 m ciprofloxacin imaging was introduced to discriminate chronic bacterial prostatitis that was not diagnosed with ease by standard laboratory tests [15]. Although 52.0 % of the respondents reported that hidden bacterial infection was the etiology of chronic prostatitis and 44.4 % believed that the EPS or specific lower urinary tract cultures might help differentiate or diagnose the various types of chronic prostatitis. It is evi-

dent from this survey that many Korean urologists do not routinely subject their patients to the diagnostic procedures required to differentiate between the various classifications of the prostatitis syndrome. Surprisingly, symptom assessment by the National Institute of Health–Chronic Prostatitis Symptom Index was less frequently used (12.7 %). The diagnostic practices for prostatitis in Korea do not follow the recommendations of the National Institutes of Health Chronic Prostatitis Collaborative Research Network for evaluation of chronic prostatitis/chronic pelvic pain syndrome (Table 1) [16].

With regard to prostatitis management, it appeared that Korean men diagnosed with prostatitis were much more commonly treated with antibiotics than others, despite laboratory findings. In this study, the first-choice treatments of patients with prostatitis included antibiotics (96.4 %), alpha-blockers (71.6 %) and sitz baths (70.5 %). Interestingly, most of the Korean urologists (93.9 %) who thought hidden bacterial infection was not the etiology of chronic abacterial prostatitis chose antimicrobial agents as the primary treatment. In addition, Korean urologists

Table 1. Tests performed by urologists on patients with prostatitis. \*Recommendations of the National Institutes of Health Chronic Prostatitis Collaborative Research Network. EPS: Expressed prostatic secretions; NIH-CPSI: National Institute of Health – Chronic Prostatitis Symptom Index; VB: voided bladder urine.

Tests*	Yes	No
Mandatory		
Digital rectal examination	223 (81.1 %)	52 (18.9 %)
Urinalysis	262 (95.3 %)	13 (4.7 %)
Urine culture	73 (26.5 %)	202 (73.5 %)
Recommended		
EPS	246 (89.5 %)	29 (10.5 %)
EPS culture	52 (18.9 %)	223 (81.1 %)
VB3	145 (52.7 %)	130 (47.3 %)
VB3 culture	33 (12.0 %)	242 (88.0 %)
Symptom index (NIH-CPSI)	35 (12.7 %)	240 (87.3 %)
Uroflowmetry	46 (16.7 %)	229 (83.3 %)
Post-void residual	50 (18.2 %)	225 (81.8 %)
Urine cytology	12 (4.4 %)	263 (95.6 %)
Optional		
Semen culture	4 (1.5 %)	271 (98.5 %)
Urethral swab for culture	6 (2.2 %)	269 (97.8 %)
Urodynamics	2 (0.7 %)	272 (99.3 %)
Cystoscopy	5 (1.8 %)	270 (98.2 %)
Sonography, prostate	143 (52.0 %)	132 (48.0 %)
Prostate specific antigen	61 (22.2 %)	214 (77.8 %)

regarded sitz baths as an important therapeutic strategy. These discrepancies seem to be due to the unclear etiology of chronic prostatitis and the ineffectiveness of any treatment option, resulting in a lack of confidence among urologists with regard to their diagnoses and treatments. Biofeedback was less frequently used by Korean urologists although pelvic floor tension myalgia may contribute to the symptoms and thus, biofeedback may improve these symptoms [17]. In addition, phytotherapy was also less frequently in Korea despite the reports regarding the effectiveness of phytotherapy on chronic prostatitis [18]. Since the evidence for the effectiveness of antimicrobial therapy in the vast majority of cases with chronic prostatitis is lacking, the practice of routine antimicrobial therapy for most men with chronic prostatitis should be re-examined.

Certain potential limitations to our study should be considered. Firstly, the survey response was only about 35.5 %. The response rate was similar to that of the United States (33.0 % of primary care physicians and 44.0 % of urologists) [7] but much higher than that of Canada (10.0 % of primary care physicians and 28.0 % of urologists) [6]. The statistical consequence of increased sampling error is that it makes it more difficult to detect small but real differences as significant. A more serious consequence of non-response is a non-response bias. Non-response bias occurs if the subjects who respond to a survey are consistently different from those who do not respond. We suspect that the non-responders were not interested in chronic prostatitis and might not be eager about the clinical practice about it. Therefore, the true indifference of Korean urological practitioners for chronic prostatitis/chronic pelvic pain syndrome might have been underestimated by this survey. Unfortunately, because we have no demographic information on the non-respondents which might allow a comparison with respondents, the importance of this effect in our survey is unclear. Secondly, our findings must be interpreted cautiously because our data on urologists' practice patterns are based on self-reported behavior, not actual behavior as measured by audit. We specifically asked the clinicians to state answers that reflected his or her practice, rather than to state what they felt should be practiced.

The findings provide a picture of current practices regarding the management of chronic prostatitis in Korea. The diagnostic and treatment practices of Korean urologists for prostatitis do not follow standard textbook

algorithms. Furthermore, urologists in many countries are likely to have some variability in clinical understanding and tend to adopt different methods of diagnosing and treating chronic prostatitis. Further studies are required to elucidate the etiology and pathogenesis and to establish guidelines for the diagnosis and treatment of chronic prostatitis.

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