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CLINICAL EVALUATION OF THE MAN WITH CHRONIC PROSTATITIS/CHRONIC PELVIC PAIN SYNDROME

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ABSTRACT

The various investigative procedures used in clinical, laboratory, and imaging evaluations for the patient presenting with chronic pelvic pain are discussed and categorized as mandatory, recommended, or optional procedures. These categories primarily serve to rule out underlying pathology because there is no diagnostic test for chronic prostatitis/chronic pelvic pain syndrome (CPPS). Mandatory category investigations should be performed in all patients with CPPS, and those procedures categorized as recommended or optional are generally prompted by specific findings in the history or physical examination, or by poor response to standard therapies. UROLOGY **60:** 20–23, 2002. © 2002, Elsevier Science Inc.

The Third International Prostatitis Collaborative Network meeting held in Washington in 2000 proposed guidelines for the evaluation of patients with chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS).[1] It was suggested that for patients presenting with CP/CPPS, a number of investigations should be mandatory, recommended, or optional (see Table I).

Mandatory investigations include (1) history, (2) physical examination (including digital rectal examination [DRE]), and (3) urinalysis/urine culture. There is no discordance that appropriate history and physical examination are mandatory for all patients presenting with CP/CPPS. Urinalysis and culture serve to screen for hematuria and possible lower urinary tract infection.

Recommended evaluations include (1) some form of lower urinary tract localization study (either the traditional Meares-Stamey 4-glass test or the pre- and postmassage 2-glass test),[2,3] (2) administering a symptom inventory or index, (3) performing a flow rate or residual urine volume determination, and (4) obtaining urine for cytologic examination. Few urologists perform a standardized lower urinary tract localization test (almost no urologist performs the traditional Meares-Stamey 4-glass test).[4] Recent evidence from large cohort studies, case-control studies, and treatment studies suggest that not only do we not have a standardized method to examine and report our findings,[5] but that localizing markers of inflammation and infection to the bladder, prostate, or urethra may not be clinically important.[6,7] However, in patients with a history of recurrent urinary tract infections, previous response to antibiotic therapy, or abnormal findings on the urinalysis/culture, localization may be important before treatment is instituted. The National Institutes of Health (NIH) Chronic Prostatitis Symptom Index (CPSI) was developed for use in clinical trials.[8] Its sensitivity in clinical trials has yet to be confirmed; its value in epidemiologic studies and use in general urologic practice also have yet to be determined.[9] Determinations of flow rate and residual urine volume provide important information about the functioning of the lower urinary tract but require a second visit.[10] Urine cytology appears to be important in all men presenting with CPPS who have microscopic hematuria or who present with irritative voiding symptoms and dysuria.[11]

Optional evaluations include (1) semen analysis and culture, (2) urethral swab, (3) sophisticated urodynamics (eg, videourodynamics, flow electromyography, pressure flow studies), (4) cystoscopy, (5) transrectal ultrasound (TRUS) of the prostate, (6) pelvic imaging studies (ultrasound, computed tomography scan, magnetic resonance imaging), and (7) prostate-specific antigen (PSA) determination.[12] Although semen analysis and culture increases the number of patients identified as category II (bacterial CP) and category IIIA (inflammatory CPPS), a recent CPPS case-control

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TABLE I. *Evaluation of the patient with chronic prostatitis/chronic pelvic pain syndrome*

- Mandatory
  - —History
  - —Physical examination, including DRE
  - —Urinalysis and urine culture
- Recommended
  - —Lower urinary tract localization test
  - —Symptom inventory or index (NIH-CPSI)
  - —Flow rate
  - —Residual urine determination
  - —Urine cytology
- Optional
  - —Semen analysis and culture
  - —Urethral swab for culture
  - —Pressure-flow studies
  - —Video-urodynamics (including flow-EMG)
  - —Cystoscopy
  - —Transrectal ultrasound
  - —Pelvic imaging (US, CT scan, MRI)
  - —Prostate-specific antigen*

CT = computed tomography; DRE = digital rectal examination; EMG = electromyography; MRI = magnetic resonance imaging; NIH-CPSI = National Institutes of Health Chronic Prostatitis Symptom Index; US = ultrasound.
**Recommended for men >50 years or >40 years if African American or men with a strong positive family history of prostate cancer.*

cohort study has determined that there is little clinical value in this evaluation.[7] Urethral swabs can increase the number of patients identified with urethral inflammation[13]; however, prostatitis can and does coexist with urethral inflammation.[14] Culture of the urethral swab can identify patients with chlamydia and mycoplasma. However, the relevance of identification of these organisms in prostatitis patients and asymptomatic individuals is unknown.[15] Sophisticated urodynamics can identify patients with bladder outlet obstruction, bladder neck hypertrophy, and vesical-sphincter dyssynergia, all conditions that are treatable.[16] Cystoscopy should be performed in selected patients with hematuria, suspicious cytology, irritative and obstructive voiding symptoms, or abnormal urodynamic parameters. Cystoscopy can identify potentially important and treatable lower urinary tract abnormalities that may be associated with the CPPS symptoms.

TRUS of the prostate can identify potentially treatable prostate abscess or cyst, seminal vesicular abnormalities, and ejaculatory duct abnormalities.[17]

The importance of identifying prostatic calcifications is unclear. The heterogeneity seen in TRUS in some prostatitis patients will lead to unnecessary prostate biopsies. Imaging of the pelvis with ultrasound, computed tomography scan, or magnetic resonance imaging in selected patients can identify potentially treatable pelvic pathology as well as prostate, seminal vesicular, or ejaculatory duct abnormalities.[12] The major indication for serum PSA is case detection or screening for prostate cancer. PSA may be elevated in some patients with CP/CPPS, but the relevance and prevalence of this elevation is unknown.[18] If the PSA is elevated, should we proceed directly to biopsy or treat first with antibiotics and/or anti-inflammatory agents?[19]

So what can the "experts" suggest for the standard evaluation of patients with CP/CPPS? Patients should continue to have an adequate history and physical examination, including a DRE and at minimum a urinalysis and urine culture. It may be important to rule out infection of the lower urinary tract and to identify patients with inflammation. The physician at least should consider doing a screening 2-glass test (and possibly reserve the 4-glass test for patients identified with recurrent urinary tract infections or significant indicators of inflammation or infection). The NIH-CPSI appears to be helpful in following cases in clinical practice. If possible, flow rate and residual urine determination should be considered because they may help identify potentially beneficial treatments. Urine cytology should be performed in all patients presenting with CPPS who have microscopic hematuria and/or irritative voiding symptoms/dysuria. Cystoscopy should be upgraded to a mandatory evaluation in patients whose investigation suggests important lower urinary tract pathology.

Semen analysis and culture and urethral swab for microscopy and culture are not required as part of the standard evaluation of patients with CPPS. Semen analysis and culture should be considered for infertile patients with CPPS. Patients with a suggestive sexual history and/or signs and symptoms of urethritis should have a urethral swab. Sophisticated urodynamics should be considered in selected patients who appear to have unexplained obstructive voiding symptoms. TRUS of the prostate and pelvic imaging should be considered in selected patients in whom history, physical examination, or failure to respond to treatment suggests some other etiologic factor may be responsible for their symptoms. Serum PSA determination should be reserved for patients who have an abnormality detected on DRE or whose age and medical history would lead to a screening PSA, regardless of their symptoms of CPPS. In evaluating patients presenting with CP/CPPS, physicians must rationalize and individualize their investigation using the proposals in this summary as a suggestion and not necessarily a guideline

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DISCUSSION FOLLOWING DR. NICKEL'S PRESENTATION

Anthony J. Schaeffer, MD (Chicago, Illinois): Are you saying that the cohort study showed that white cells and bacteria, not inflammation and infection, do not correlate with symptoms?

J. Curtis Nickel, MD (Kingston, Ontario, Canada): Yes. White cells and bacteria do not correlate with symptoms. In the study, which we will be presenting at the American Urological Association (AUA) annual meeting, we showed that patients with chronic pelvic pain syndrome (CPPS) had a statistically higher number of white cells compared with control subjects. However, the clinical significance of differentiating populations may not be evident because the prevalence was so high among the asymptomatic control subjects. There was no difference in localization of uropathogenic or nonuropathogenic bacteria between the 2 patient populations. In treatment studies to date, there is no clear difference in efficacy of any medications based on classification of the patient into categories II, IIIA, or IIIB. Antibiotics appear to have the same efficacy, regardless of bacterial presence or absence; however, no results from randomized trials comparing antibiotics with placebo in CPPS have been reported to date.

Dr. Schaeffer: You said there was no difference in efficacy. Do you mean they all showed a lack of efficacy?

Dr. Nickel: No. They all showed significant efficacy. All of the studies I am aware of, including ours, show that ≥40% of patients in categories II, IIIA, and IIIB had a significant clinical response to antibiotics. We have not compared it against placebo. The final answer will come with the reporting of 2 major randomized placebo-controlled trials.

Dr. Schaeffer: You are saying that they are equally efficacious in terms of symptom relief in categories II, IIIA, and IIIB. There is no difference, whether you have bacteria, white cells, or no white cells, in the effect of antibiotics on symptoms.

Dr. Nickel: There is no difference in effect on symptoms, although antibiotics did eradicate bacteria in category II.

Jackson E. Fowler, Jr., MD (Jackson, Mississippi): What you recommend to a primary care provider versus a urologist would probably be 2 different things. The primary care provider is seeing the patient maybe for the first time. When the urologist sees a patient, the patient has usually been on multiple courses of antibiotics. I look only at the prostate fluid culture in patients in whom I think bacterial prostatitis, as it is conventionally defined, is possible. That decision is based on history, response to antibiotics, symptoms while on antibiotics, and expressed prostatic secretions or urine cultures. Because we know that only about 5% of the patients have chronic bacterial prostatitis, again, as conventionally defined, why do it?

Dr. Nickel: You are very correct in pointing out that we excluded those patients who have "classic" chronic bacterial prostatitis (ie, those men who have recurrent urinary tract infections [UTIs] secondary to a chronic bacterial infection in the prostate). In our CPPS subgroup, these patients did not have recurrent UTIs. They were not the classic chronic bacterial prostatitis patient. Yet 8% of them had uropathogenic bac-