

Alternative Approaches to the Management of Prostatitis: Biofeedback, Progressive Relaxation and the Concept of Functional Somatic Syndromes

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Abstract

Specific mechanisms underlying chronic pelvic pain syndrome have yet to be identified. However, the disorder has features common to other chronic pain syndromes, such as fibromyalgia and chronic pelvic pain in women. Like other chronic pain patients, men presenting with chronic prostatitis may meet diagnostic criteria for other functional pain syndromes as well as affective disorders, which should be screened for. Finally, as with other chronic pain conditions, chronic nonbacterial prostatitis patients respond very well to non-specific modalities that act to reduce stress and/or muscle tension, including progressive relaxation and biofeedback.

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1. Background

Is prostatic inflammation responsible for the constellation of symptoms present in men diagnosed with prostatitis? Although elegant studies exist demonstrating abnormalities of the prostatic or seminal fluid in men with prostatitis, abnormalities such as bacterial colonization, elevated cytokine levels, and the presence of oxidative stress have not been consistently identified in prostatitis patients, nor have these findings been specific, as they may also be present in asymptomatic men. One of the most obvious inconsistencies in the diagnosis of prostatitis is the presence or absence of inflammatory cells in prostatic secretions. Elevated white blood cell counts in expressed prostatic secretions have been observed in up to 42% of asymptomatic men presenting at a urological clinic for PSA elevation [1]. While it is widely accepted that only 5–7% of symptomatic men will have positive localization cultures, Nickel and colleagues proved that this was also true among a group of controls [2]. Histologically, prostatic inflammation is frequently identified in

biopsy and prostatectomy specimens [1]; however, when symptomatic men were studied, only 5% of prostate specimens demonstrated significant inflammation [3].

Other investigators have revealed other causes for prostatitis-like symptoms, namely urodynamic abnormalities such as bladder-neck hyperplasia, impaired detrusor contractility and pseudodyssynergia [4]. Pseudodyssynergia has been identified in 65–81% of patients diagnosed with prostatitis, in association with anal sphincter “discoordination” and pelvic floor muscle trigger points, consistent with myofascial pain syndromes [5,6].

Beyond the prostate and urological literature, we can appreciate the challenge posed by chronic pelvic pain syndrome in other specialties. The gynecological literature is replete with observational studies demonstrating a high incidence of negative laparoscopic evaluations in women with chronic pelvic pain and conversely the prevalence of myofascial pain syndromes and somatoform disorders [7,8].

Musculoskeletal sources of chronic pelvic pain in women are well recognized. Pain and urinary dysfunction can be perpetuated by this intricate relationship via the sympathetic nervous system. Etiologies include

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acute or chronic stress, sleep disorders, fatigue, micro trauma, macro trauma such as prior pelvic surgery, systemic disease and psychosocial stress [9–11]. Pain perceived in the pelvic floor, genital, and rectal areas can be attributed to adaptive shortening, weakness, or strain of the pelvic floor muscles. Similarly, the colorectal literature describes chronic rectal pain attributed to muscles spasms. Etiologies of chronic rectal pain include levator ani spasm, coccygodynia, and pudendal neuropathy. Patients are typically between the age of 40 and 60 years and may have depression or anxiety in association with the onset of their symptoms; in several series, 66–92% of patients respond favorably to physical therapy and internal massage or myofascial release [12–14]. Based on these findings, Anderson [15] and colleagues have employed myofascial release therapy for patients with NIH category III prostatitis or chronic pelvic pain syndrome with comparable success. Most recently, Weiss [16] reported subjective improvement in 70–83% of patients diagnosed with interstitial cystitis or urethral syndrome. He also noted a 65% improvement or decrease in the mean resting floor electromyographical (EMG) measurements. Treatment of the pelvic floor muscles either by massage or by exercise is believed to reverse a neurologically mediated inflammation of the muscles and/or the bladder mucosa.

The role of psychological factors has been studied in patients with chronic genital or pelvic pain, revealing higher levels of hypochondriasis, somatization [17], depression [18] and decreased social support [19]. Stress management alone proved to be beneficial in one cross-sectional study of men with prostatitis [20]. Unfortunately, physical disease and psychiatric disorders coexist, and assessment of their relative contribution is not often feasible [21]. A growing body of evidence exists to support a biochemical basis for the association of physical symptoms that occur in the setting of psychological disorders or stress. For example, disruptions in the serotonergic pathways have been implicated in non-ulcer dyspepsia, irritable bowel syndrome, chronic fatigue syndrome, and premenstrual syndrome [22]. The recognition of limbically augmented pain syndromes has also led to research based on kindling experiments, which elucidate the complex neurobiological mechanisms that transduce exteroceptive and interoceptive stimuli into memory at the cellular/synaptic level. This may explain the association between treatment-refractory pain complaints and disturbances of mood, sleep, energy, libido, memory/concentration, behavior and stress intolerance [23].

It is obvious that many subspecialty areas are challenged by the evaluation and treatment of patients

suffering from chronic pain syndromes. Interestingly, other chronic pain and somatic syndromes affecting other parts of the body also share similar characteristics as well. Perhaps the diagnoses are artifactual, depending on the specialist consulted. It has been proposed that a unifying syndrome may be a more appropriate diagnosis [23]. Many patients have been found to have overlapping syndromes, meeting criteria for coexisting functional somatic syndromes such as chronic fatigue syndrome, irritable bowel syndrome, or fibromyalgia. A recent study compared 127 twins diagnosed with chronic fatigue and their healthy twin with respect to prevalence of comorbid conditions including functional somatic syndromes and chronic prostatitis [24]. The comorbid conditions were found with significantly greater frequency in the fatigued twin than in their nonfatigued co-twin. These observations suggest that there may be an environmental cause that predisposes individuals to such disorders rather than a genetic predisposition. We observed other functional somatic syndromes in 65% of men presenting to our prostatitis clinic; the lifetime prevalence of functional somatic syndromes in the general population is estimated to be only 1%, slightly higher in women. Patients with functional somatic syndromes also respond favorably to similar treatment modalities such as exercise, antidepressants (particularly tricyclics), and relaxation techniques.

2. Alternative approaches to the evaluation of the prostatitis patient

In addition to routine history and review of systems, patients should be thoroughly assessed for social support and psychological comorbidities, as well as screened for other functional somatic syndromes. Although time may be a very important limiting factor during a clinical visit, subsequent visits can be scheduled to explore psychosocial issues and to provide patients with professional counselors. A physical examination should be carried out to exclude other general medical or systemic disease that may present with lower urinary tract symptoms. An assessment of the lower back using McKenzie technique will commonly reveal musculoskeletal factors that affect the patient's management. The pelvic floor should be evaluated with the patient in the lithotomy position. Methodical digital palpation of the pelvic floor structures should be undertaken during the rectal examination. Anal sphincter coordination should likewise be assessed during this examination, and finally the prostate should be palpated. This approach also allows the

physician to educate the patient about the source of his discomfort, especially if referred pain and point tenderness are elicited and reproduced during the examination.

Election of additional invasive procedures and imaging studies remains controversial. It is well known that the yield is quite low while the healthcare cost can become excessive. Ordering additional tests has been shown to exacerbate patients' symptoms due to increased anxiety; therefore, a limitation on testing may be a consideration.

3. Alternative approach for the treatment of patients with prostatitis

If specific trigger points or muscle tension are revealed on physical examination, patients in our center are prescribed a tailor-made stretching and strengthening exercise regimen. Patients are also encouraged to increase aerobic activity, as this has been shown to increase catecholamine levels in the body and improve overall sense of well-being. This has been demonstrated in patients with depression, chronic fatigue syndrome and fibromyalgia. Unfortunately, compliance with such regimens can be quite disappointing [25].

Biofeedback is a training technique that enables an individual to gain voluntary control over autonomic body functions. The patient is trained using information such as increased skin temperature (thermal biofeedback) to indicate that a specific thought complex has produced a desired physiological response associated with relaxation. When using an electromyographical measure for biofeedback training, skeletal muscle activity can be measured and used as a cue for patient education in a similar fashion. Muscle tension, for example, can be measured and the physical symptom can be deconditioned. Such approaches have

been used for treatment of chronic headaches. This technique has also been used for dysfunctional voiding in pediatric urological patients [26] and in adult men with urodynamic evidence of pseudodyssynergia [4].

Progressive muscle relaxation techniques vary among specialties and practitioners themselves. The objective, however, remains the same: enhancement of a patient's ability to comfortably manage stress and secondary muscle tension.

Empiric therapies such as these are not based on evidence from large randomized, double-blind, placebo-controlled trials. This void places a premium on the physician's therapeutic creativity and counseling skills [25]. Personally, I believe that such therapies are incredibly empowering to patients and therefore therapeutic. Compliance can only be enhanced by the empathy and patience of the caregiver.

4. Alternative approaches to research prostatitis

Unfortunately, there is a significant paucity of level I evidence-based studies for prostatitis; however, such deficiencies are common in the research of chronic pain syndromes in general. It is agreed that we should strive to improve our scientific method, but it may be equally important to validate other research tools which would recognize the unique characteristics of our patients and the inherent limitations of studying this population. Methods to enhance and validate our observational skills must be explored. The development of the NIH Chronic Prostatitis Symptoms Index was an important first step in pursuing this objective. It may be useful to collaborate with other specialists who research functional somatic syndromes, which would allow us all to provide patients with a more comprehensive evaluation and perhaps a more appropriate unifying diagnosis.

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Open discussion following the presentation by Dr. Jeannette Potts

Dr. Anthony Schaeffer: In the NIH approach, psychosomatic assessment is becoming an integral part of the next phase of evaluation. So I think your points are well taken: we should look at multiple factors. As urologists, if there is no evidence of urologic abnormality, then we can focus on extra-prostatic issues. We should rule out prostatic involvement systematically, and then go on to the next level.

Dr. John Krieger: I also agree with the fundamental point that you can learn from the female urology and gynecological literature. In the older literature, there were young women with the so-called urethral syndrome. Many had white cells but negative cultures. Papers by well-known urologists argued the role of primary psychopathology, and many of these women suffered from what we might call a functional somatic syndrome or fibromyalgia, to use today's nomenclature. But once we had the ability to culture chlamydia it turned out that a lot of these women with urethral syndrome had chlamydial infections. Time and again this happens when we do not understand enough and gave the syndrome a

psychological label. The other classic example is peptic ulcer.

Dr. Potts: When we talk about functional somatic syndromes, we also have the negative connotation of labeling the patient with a psychological disorder. That is just as damaging. The functional somatic syndromes actually have biochemical evidence implicating the serotonergic pathways.

Dr. Werner Hochreiter: I think that a certain number of patients have some psychological problems that exacerbate the prostatitis syndrome. On the other hand, if I had pain down there for 10 years and I had visited 30 urologists—nobody can tell me what I have, but everybody sends me on to the next doctor, I would be hypochondriac. I would be depressed, and I would sleep very badly. So what is cause and what is effect?

Dr. Curtis Nickel: I think there is a suggestion here that we include in our further evaluations psychosomatic or psychiatric assessments.

Dr. Schaeffer: Dr. Hochreiter's point was that it does not have to be one or the other; it can be both. So I think we ought to be looking at the psychosocial as well as the biological phenomenon.