



American Journal of Urology Research

Research Article

Chronic Prostatitis and Chronic Pelvic Pain Syndrome (CP/CPPS): Epidemiological, Clinical and Therapeutic Profile - @

Sine B^{1*}, Fall B¹, Sow Y¹, Bagayogo NA¹, Thiam A¹, Ze Ondo C¹, Sarr A¹,
Barboza D², Zakou ARH¹, Faye ST¹, Diao B¹, Fall PA¹ and Ndoye AK¹

¹*Urology-Andrology department of Aristide Le Dantec Hospital Dakar, Senegal*

²*Hospital de la Paix, Ziguinchor, Senegal*

***Address for Correspondence:** Babacar Sine, Urology-Andrology department of Aristide Le Dantec Hospital Dakar Senegal, Tel: +002-2177-4437-657; E-mail: papesine@yahoo.fr

Submitted: 03 May 2017; **Approved:** 30 May 2017; **Published:** 31 May 2017

Citation this article: Sine B, Fall B, Sow Y, Bagayogo NA, Thiam A, et al. Chronic Prostatitis and Chronic Pelvic Pain Syndrome (CP/CPPS): Epidemiological, Clinical and Therapeutic Profile. Am J Urol Res. 2017;2(1): 001-005.

Copyright: © 2017 Sine B, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Aim: To report the epidemiological, clinical and therapeutic aspects of chronic category III prostatitis.

Patients and Methods: This was a retrospective study from January 1, 2011 to December 31, 2015, collating all patient files that were followed for chronic prostatitis / chronic pelvic pain syndrome (CP / CPPS). We focused on the following parameters: Patients' status, history of acute urethritis, psychological disposition, duration of symptoms, prostaticorrhea, NIH score (pain, urinary signs, quality of life), other symptoms and associated disorders (Erectile dysfunction, ejaculation disorder, hemospermia, infertility of the couple), the given treatments and their results.

Results: The average age was 42.4 ± 14 years. Chronic prostatitis concerned all age groups of adult men. We found that the married were most affected by chronic prostatitis (54%). Anxiety was noted in 22 patients. Symptom duration ranged from 3 months to 10 years. Urinary problems were the most frequent reasons for consultation; (86%). The pain was reported in more than two-thirds of patients (68%). Other reasons for consultation were prostaticorrhea, erectile dysfunction, ejaculation disorders and primary infertility. Suspicious prostatic induration was in 8 patients. The Cyto-Bacteriological Examination of the Urine (CBEU) was negative in all the patients as well as the spermocultures that were realized. Ultrasound of the urinary tract showed prostatic hypertrophy in 12 patients, prostatic calcifications in 9 patients and a significant post-voiding residue (100cc) in 13 patients. The antibiotic, anti-inflammatory and alpha-blocking combination was the most common treatment used with our patients (86%). Thirteen (13) patients underwent surgical treatment after no improvement in urinary symptoms after medical treatment. Cure was achieved only in one-third of the patients. However, an improvement in symptoms was observed in half of the patients.

Conclusion: CP/CPPS is an uncommon condition in our practice, difficult to manage, sometimes requiring multidisciplinary care.

Keywords: Chronic prostatitis; Clinical; Treatment

INTRODUCTION

Chronic prostatitis is an inflammation of the prostate gland usually of infectious origin (bacterial or non-bacterial). More than 90% of patients with chronic prostatic disease belong to category III. It is defined as a genitourinary pelvic pain without bacteria evolving for at least three months sometimes associated with voiding and sexual disorders, inflammatory (category IIIA) or not (category IIIB) [1]. Although chronic prostatitis is a better known pathology thanks to the work of the US-NIH (United States-National Institute of Health) [2]. Its Diagnosis and treatment remain difficult, and often the hope of a complete and final recovery requires a sustained courage and patience from both the doctor and the patient. The objective of the study was to report the epidemiological, clinical and therapeutic aspects of chronic category III prostatitis.

PATIENTS AND METHODS

The study focused on the records of 119 patients who were monitored for prostatitis from January 1, 2011 to December 31, 2015. Fifty (50) patients who had clinical signs related to Class III prostatitis (non-bacterial chronic prostatitis) were included in our study. It is defined as a genitourinary pelvic pain without bacteria evolving for at least three months sometimes associated with voiding and sexual disorders, inflammatory or not. There may be the presence or absence of leukocytes in prostatic secretions, of urine collected after prostatic massage or that of sperm. Patients whose bacteriological analysis (Cyto-Bacteriological Examination of the Urines, Spermoculture and prostatic massage) has isolated germs, those who had no lesions of chronic prostatitis on biopsy and those who had unusable records were excluded from the study.

We conducted a retrospective study and were interested in the following parameters: age of patients, marital status, psychological disposition (anxiety, depression, stress), Duration of symptoms; Prostaticorrhea (The flow of prostatic secretion at the end of urination), NIH (National Institute of Health) score (pain, urinary signs, quality of life), other symptoms and associated disorders (erectile dysfunction,

ejaculation disorder, hemospermia, couple infertility); The information of the rectal examination, the paraclinical examinations (Cyto-Bacteriological examination of Urines, spermoculture, PSA -Prostate Specific Antigen-level, ultrasound of the urinary tract) and the given treatments. The treatment included hygiene-dietetic measures (proscription of spicy foods), psychological support, non steroidal anti-inflammatory drugs, antibiotics with good prostatic diffusion (fluoroquinolones, macrolides), and uro-blockers-selective (Doxazosin, Alfusosine) for all patients who urinary symptoms. The prescription of Benzodiazepines was done in anxiety patients. A removal of the cervico-prostatic pathway by conventional surgery was performed in patients with bladder control. The criteria for evaluating the results were improvement of the symptoms (pain, prostaticorrhea, erectile dysfunction) evaluated verbally, voiding disorders (International Prostatic Symptom Score). Sustained patient satisfaction was considered a cure. Lack of improvement or aggravation of symptoms was considered a failure. The statistical analysis was done via Excel 2010 software.

RESULTS

Thus thirty-seven (37) patients presented clinical signs of chronic prostatitis. Thirteen (13) patients had lower urinary tract disorders associated with an increase in total PSA and chronic prostatitis was confirmed during prostate biopsy. The average age was 42.4 ± 14 years. Chronic prostatitis concerned all age groups of adult men. The age group between 20 and 30 was the most represented (Figure 1). We found that married men were the most affected (54%). Four (4) patients reported antecedents of urethritis. Anxiety was noted in 22 patients. Symptom duration ranged from 3 months to 10 years. Urinary problems were the most frequent reasons for consultation, (86%). Pain was reported in more than two-thirds of patients (68%). It was perineal, hypogastric, penile. Thirteen percent (13%) of patients reported post-coital pain that ranged from 5 minutes to several hours. Other reasons for consultation are reported in the table 1. Suspicious prostatic induration was diagnosed in 8 patients who subsequently had prostatic biopsy.

The Cyto-Bacteriological Examination of the Urine (CBEU) was negative in all the patients as well as the spermocultures that were performed. The PSA was greater than 5 ng/ ml in 13 patients, and the average was 4.33 ± 1.15 ng/ ml. The histological analysis of the biopsies revealed an aspect in favor of a CP. Ultrasound of the urinary tract showed prostatic hypertrophy in 12 patients, prostate calcifications in 9 patients and a significant post-voiding residual (100cc) in 13 patients.

The antibiotic, anti-inflammatory and alpha-blocking combination was the treatment most used in our patients (86%). Thirteen (13) patients underwent surgical treatment. Cure was achieved in one third of the patients (Figure 2).

DISCUSSION

The prevalence of prostatitis is about 5 to 9% of the general male population [3]. In Africa in general and in Senegal particularly, there have been no epidemiological studies on chronic prostatitis. The average age of the patients was 42.4 ± 14 years. The age group between 20 and 30 was the most represented. PC/CPPS affects youth more in our regions. In fact, 66% of our patients were under 50 years of age. Diao, et al. [4] had reported an average age of 31.82 years. This predominance of young people could be explained by the frequencies of sexually transmitted diseases which can lead to chronic prostatitis during their evolution. However, 4 patients reported antecedents of urethritis in our study. The opposite trend was reported by Mehik, et al. [5].

Chronic Prostatitis (CP) was more common in married men. Several studies have attempted to establish the link between prostatitis and the frequency of sexual intercourse. They reported that the risk of prostatitis was lower among unmarried and divorced compared to married men. Indeed, it is attributed to germs that could be

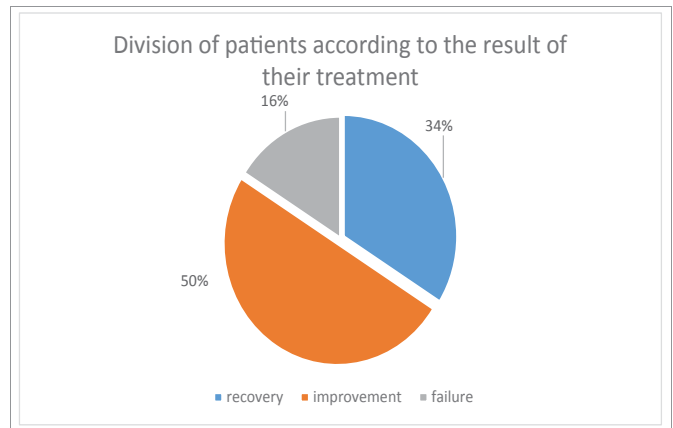


Figure 2: Division of patients according to the result of their treatment.

found in the female genitalia [5]. Collins and Coll reported that men who ejaculate more often are more likely to develop prostatitis [6]. However, Wallner, et al. [7] observed an inverse relationship between the frequency of sexual intercourse and the risk of CP. Therefore, they think that ejaculation would be a protective factor in preventing congestion of the spermatic pathways that promote prostate infection.

Psychological factors may also play an important role in the etiology of Chronic Prostatitis and Chronic Pelvic Pain Syndromes (PC/CPPS), and patients must have supportive psychotherapy [8]. Wallner, et al. [7] showed in a population of black Americans that the number of stressful events in life and emotional stress were linked to a risk of prostatitis. In our study, anxiety was noted in 22 patients (44%). It is known that stress is an important factor in the development of infection in general but it is difficult to say whether stress is a response to the announcement of the diagnosis of prostatitis or whether the infection is favored by stress [9]. In addition, the results of the “Health Professionals Follow-up” study [6] agree with those of Wallner, et al. [7]. It revealed that men who reported stress at home or at work had an increase of 1.2 to 1.5 times the risk of prostatitis.

Symptom duration ranged from 3 months to 10 years. By definition, PC/CPPS is genitourinary pelvic pain without bacteria that has been evolving for at least three months, sometimes associated with urinary and sexual disorders, inflammatory (IIIA) or non-inflammatory (IIIB), depending on the presence or absence of leukocytes in Expressed Prostatic Secretion (EPS), Voided Bladder 3 (VB3) or in sperm [10]. Diao, et al. [4] reported an average duration of 31.5 months.

We reported urinary symptoms in 86% of patients. Prostatitis has been shown to be systematically associated with Lower Urinary Tract Symptoms (LUTS) and 19% of patients with LUTS have chronic prostatitis [11]. According to Delavierre, et al. [12] Voiding disorders associate pollakiuria and urgenturia. Dysuria is rarer. However, we should be careful when interpreting LUTSs because they are not specific to prostatic disorders. In addition, the association with benign hypertrophy of the prostate, of a prostate cancer or of an interstitial cystitis is not uncommon. Several studies have demonstrated the relationship between prostatitis and Benign Prostatic Hyperplasia (BHP). Indeed the inflammation caused by the prostatic infection can lead to an increase in volume of the prostate. But also the bad bladder drainage that can result from prostatic hypertrophy is a risk factor for infection. Nickel, et al. [13] found that 5-20% of patients diagnosed with BPH had symptoms of prostatitis and more than one-third of

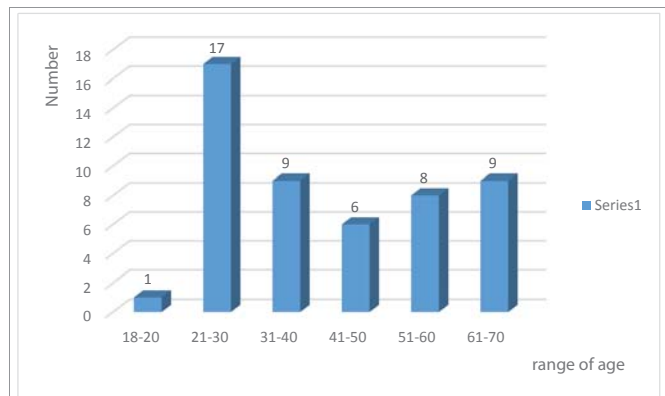


Figure 1: Division of patients with a chronic prostatitis according to their age (N = 50).

Table 1: Reason for consultation.

Symptoms	Number	Percentage (%)
Urinary symptoms	43	86
pains	34	68
Prostatorrhea	15	30
Erectile disorder	11	22
Ejaculation disorder	7	14
Primary infertility	1	2

patients with previous BPH diagnosis also had a history of prostatitis [13].

Prostatorrhea was a frequent symptom in our series, observed in 30% of patients. These secretions are uncomfortable for certain patients, especially for muslim patients. Prostatorrhea is a symptom that we have not highlighted in the articles and studies we have used for our work. All the documents we consulted refer only to prostatic secretions after prostatic massage and not after urination. Eight patients had suspicious induration with rectal examination. These patients probably had a prostate biopsy. The induration of the prostate does not necessarily translate a prostatitis but rather a possible association of a cancer of the prostate. Ojewola, et al. [14] found a cancer detection rate in patients with a single rectal abnormality was 40.2% (39/97), while detection rates in those with a combination of two abnormalities and More than three anomalies were 83.7% and 100%, respectively.

In CP/CPSP, CBEU is often sterile [15,16]. The sperm culture is not a recommended examination for the diagnosis of CP/CPSP. It is useful only to differentiate between category IIIA and IIIB of the US-NIH classification. However, it was performed in 3 patients in our study, one patient who had primary infertility and two others who had prostatorrhea. Indeed, the work of Nickel, et al. [17] did not show a significant difference in the prevalence of leucospermia between patients with CP/CPSP and control subjects

The effect of PC/SDPC on PSA rates remains uncertain. Nadler, et al. [18] showed that the PSA was significantly higher in patients with PC/CPSP but slightly and the sensitivity and specificity were too low to recommend PSA as a marker of PC/CPSP.

Ultrasound of the urinary tract as well as other imaging examinations is of no interest in the diagnosis of CP/CPSP but allow the elimination of certain differential diagnoses and the presence of ultrasound signs of a bladder fight. Shoskes, et al. [19] showed that in 130 patients with CP/SDPC, prostate calcifications were frequent and correlated with the age of symptoms, increased inflammation and bacterial colonization of the prostate.

Several means have been used to treat CP/CPSP but with little success. The treatment of CP/CPSP has traditionally been based on the concept of "prostatitis" and therefore, focused on infection and inflammation of the prostate. This is why antibiotics and anti-inflammatories have always been used. Antibiotic therapy remains a reference treatment for CP/CPSP despite uncertainties about infectious origin of this pathology and the lack of evidence of efficacy. Its use is certainly due to the possible association with authentic bacterial prostatitis or to the fact that the CP/CPSP can be the evolution of a bacterial prostatitis. In the same vein, alpha-blockers, inhibitors of 5-alpha reductase and phytotherapy were used because of the often associated prostatic hypertrophy [20]. Nickel, et al. [21] found a response rate to fluoroquinolones (Levofloxacin and ciprofloxacin) of 75% in patients who had CP/CPSP less than 4 weeks and who had not had antibiotic therapy before. Therapeutic trials have shown that alpha-blockers give modest results when administered to patients with less than four weeks of untreated CP/CPSP [22-24].

Mo, et al. [25] showed that the combination of an alpha-blocker with an antibiotic gave better results. The antibiotic, anti-inflammatory and alpha-blocking combination was used in most our patients (86%) and globally cure was achieved in one third of the patients.

Thirteen patients underwent surgical treatment after no improvement in urinary symptoms after medical treatment.

The only large randomized multicenter study evaluating anti-inflammatory drugs (Rofecoxib 25 mg and 60 mg vs placebo) revealed that only high-dose Rofecoxib had given significant results [26]. Currently, Rofecoxib is no longer marketed.

According to the psychological theory, psychological stress is frequent during the CP/CPSP and could be involved in the occurrence of the symptoms or their perception [27]. That's why anxiolytics are included in the treatment of CP/CPSP.

Other therapeutic means have been used to cope with CP/CPSP. These include herbal medicines based on *serenoa repens* [28], tricyclic antidepressants and some opioid derivatives to treat pain [29], muscle relaxants and acupuncture [30].

CONCLUSION

CP/CPSP is an uncommon condition in our practice. The diagnosis is relatively easy; the management remains difficult sometimes requiring a long and disappointing management in several patients. A better understanding of the etiopathogenesis of CP/CPSP may help improve treatment outcomes.

REFERENCES

- Krieger JN, Weidner W. Prostatitis: ancient history and new horizons. *World J Urol.* 2003; 21: 51-53. <https://goo.gl/2DmFLC>
- Nyberg LM, Krieger JN, Nickel JC. National Institutes of Health classification of chronic prostatitis. In: Nickel JC, editor. *Textbook of prostatitis.* Oxford, United Kingdom: ISIS Medical Media; 1999; p27-9
- Krieger JN, Riley DE, Cheah PY, Liang ML, Yuen KH. Epidemiology of prostatitis: new evidence for a world-wide problem. *World J Urol.* 2003; 21: 70-74. <https://goo.gl/Bjbs8l>
- Diao B, Fall PA, Ndoye AK, Ze Ondo C, Fall B, Sow Y, et al. Chronic prostatitis: clinical and therapeutic aspects. *Dakar Med.* 2006; 51: 38-41. <https://goo.gl/FibMTC>
- Mehik A, Hellstrom P, Lukkarinen O, Sarpola A, Jarvelin MR. Epidemiology of prostatitis in Finnish men: a population-based cross-sectional study. *BJU Int.* 2000; 86: 443-448. <https://goo.gl/NGUaMH>
- Collins MM, Meigs JB, Barry MJ, Walker CE, Giovannucci E, Kawachi I. Prevalence and correlates of prostatitis in the health professionals follow-up study cohort. *J Urol.* 2002; 167: 1363-1366. <https://goo.gl/2phtff>
- Wallner LP, Clemens JQ, Sarma AV. Prevalence and risk factors for prostatitis in African American men: findings from the flint men's health study. *Prostate.* 2009; 69: 24-32. <https://goo.gl/sK6hM6>
- Mehik A, Hellstrom P, Sarpola A, Lukkarinen O, Jarvelin MR. Fears, sexual disturbances and personality features in men with prostatitis: a population-based cross-sectional study in Finland. *BJU Int.* 2001; 88: 35-38. <https://goo.gl/MnHrO7>
- Ku JH, Kim SW, Paick JS. Epidemiologic risk factors for chronic prostatitis. *Int J Androl.* 2005; 28: 317-327. <https://goo.gl/Zrn7Fs>
- Krieger JN, Nyberg L Jr, Nickel JC. NIH consensus definition and classification of prostatitis. *JAMA.* 1999; 282: 236-237. <https://goo.gl/ouBMX2>
- McNaughton Collins, Stafford RS, Leary MP, Barry MJ. Distinguishing chronic prostatitis and benign prostatic hyperplasia symptoms: results of a national survey of physicians. *Urology.* 1999; 53: 921-925. <https://goo.gl/L6HgHL>
- Delavierre D, Rigaud J, Sibert L, Labatb JJ. Symptomatic Approach to Chronic Penile Pain. *Prog Urol.* 2010; 20: 940-953. <https://goo.gl/tCCPF4>
- Nickel JC. The overlapping lower urinary tract symptoms of benign prostatic hyperplasia and prostatitis. *Curr Opin Urol.* 2006; 16: 5-10. <https://goo.gl/ZAFBXV>
- Ojewola RW, Jeje EA, Tijani KH, Ogunjimi MA, Anunobi CC. Clinical-

- pathological Correlation of the Rectal Examination Findings Amongst Nigerian Men with Prostatic Diseases: A Prospective Study of 236 Cases. *Niger J Surg.* 2013; 19: 26-31. <https://goo.gl/kjvGwX>
15. Nickel JC. Classification and diagnosis of prostatitis: a gold standard? *Andrologia.* 2003; 35: 160-167. <https://goo.gl/LCAKQ1>
 16. Weidner W, Anderson RU. Evaluation of acute and chronic bacterial prostatitis and chronic pelvic pain syndrome with special reference to infection / inflammation. *Int J Antimicrob Agents.* 2008; 31: S91-95. <https://goo.gl/BhSJrz>
 17. Nickel JC, Alexander RB, Schaeffer AJ, Landis JR, Knauss JS, Propert KJ; Chronic Prostatitis Collaborative Research Network Study Group. Leukocytes and bacteria in men with chronic prostatitis / chronic pelvic pain syndrome compared to asymptomatic controls. *J Urol.* 2003, 170: 818-822. <https://goo.gl/lZZ4ht>
 18. Nadler RB, McNaughton-Collins M, Propert KJ, Mikolajczyk SD, Knauss JS, Landis JR, et al. Prostate-specific antigen test in diagnostic evaluation of chronic prostatitis/chronic pelvic pain syndrome. *Urology.* 2006; 67: 337-342. <https://goo.gl/GGvzmk>
 19. Shoskes DA, Lee CT, Murphy D, Kefer J, Wood HM. Incidence and significance of prostatic stones in men with chronic prostatitis / chronic pelvic pain syndrome. *Urology.* 2007; 70: 235-238. <https://goo.gl/T7UtZQ>
 20. Nickel JC. Treatment of chronic prostatitis/chronic pelvic pain syndrome. *Int J Antimicrob Agents.* 2008; 31: 112-116. <https://goo.gl/VzDkei>
 21. Nickel JC, Zadeikis N, Spivey M, et al. Clinical significance of antimicrobial therapy in chronic prostatitis associated with non-traditional uropathogens. *J Urol.* 2005; 173: S30.
 22. Cheah PY, Liong ML, Yuen KH, Teh CL, Khor T, Yang JR, et al. Terazosin therapy for chronic prostatitis/chronic pelvic pain syndrome: a randomized, placebo controlled trial. *J Urol.* 2003; 169: 592-596. <https://goo.gl/6c5WT1>
 23. Mehik A, Alas P, Nickel JC, Sarpola A, Helström PJ. Alfuzosin treatment for chronic prostatitis / chronic pelvic pain syndrome: a prospective, randomized, double-blind, placebo controlled, pilot study. *Urology.* 2003; 62: 425-429. <https://goo.gl/o4m6Zi>
 24. Nickel JC, Narayan P, MacKay J, Doyle C. Treatment of chronic prostatitis/ chronic pelvic pain syndrome with tamsulosin: a randomized double blind trial. *J Urol* 2004; 171: 1594-1597. <https://goo.gl/o7FmJG>
 25. Mo KI, Lee KS, Kim DG. Efficacy of combination therapy for patients with chronic prostatitis / chronic pelvic pain syndrome: a prospective study. *Korean J Urol.* 2006; 47: 536-540. <https://goo.gl/apF46n>
 26. Nickel JC, Pontari M, Moon T, Gittelman M, Malek G, Farrington J, et al. A randomized, placebo controlled, multicenter study to evaluate the safety and efficacy of rofecoxib in the treatment of chronic nonbacterial prostatitis. *J Urol.* 2003; 169: 1401-1405. <https://goo.gl/ipzDDJ>
 27. Pontari MA, Lebed B. Prostate bread syndrome-Etiology epidemiology and research. In: Baranowski AP, Abrams P, Fall M, editors. *Urogenital bread in clinical practice.* New York: Informa healthcare Inc; 2008. p. 211-21
 28. Reissigl A, Djavan B, Pointner J. Prospective placebo-controlled multicenter trial on safety and efficacy of phytotherapy in the treatment of chronic prostatitis/chronic pelvic pain syndrome. *J Urol.* 2004; 171: 61.
 29. Nickel JC. Chronic prostatitis/chronic pelvic pain syndrome: a decade of change. *AUA Update Series.* 2006; 25: 309-316
 30. Lee SWH, Liong L, Yuen KH, Leong WS, Chee C, Cheah PY, et al. Acupuncture versus sham acupuncture for chronic prostatitis / chronic pelvic pain. *Am J Med.* 2008; 121: 79. e1-7. <https://goo.gl/2XnmDI>