



Chronic Prostatitis

L. J. Denis

Division of Urology, Department of Surgery, Military Hospital, Antwerp

Chronic prostatitis, which is one of the most common diseases with which the adult male is afflicted [1, 2], covers a wide range of symptoms originating in the prostate. Gartman [3] collected 178 of these symptoms related to the strategic position of the prostate to the urinary, genital and gastro-intestinal tract. A classification based on histological appearance by Swinney [14] divides the clinical heterogeneous group of chronic prostatitis in a true inflammatory group, a group with no evidence of inflammatory changes and a third small group of granulomatous prostatitis first described by Tanner and McDonald [5]. A new extract Cernitin (2) was introduced in 1959 by Ask-Upmark [6] in the therapy of this syndrome. This paper gives the preliminary results in small group of patients treated with this product in combination with a study of some constituents of prostatic fluid in this disease.

Methods and materials

Thirty one patients with a presumptive diagnosis of chronic prostatitis were considered potential candidates for admission to the study. The presumptive diagnosis was based on a careful history after which the patients underwent complete urological evaluation. This evaluation included weight and height, general and neurological findings, rectal findings with touch diagrams, residual urine, hemogram, serum phosphatase and lactic dehydrogenase (LDH), sedimentation rate, urinary sediment, urine and prostatic secretion cultures and antibiograms and urography. Prostatic secretion was obtained through massage of the prostate.

In several selected instances cystometry, transrectal prostatic biopsy and cystourethroscopy were performed. After this evaluation all patients with present urologic abnormalities or infections were excluded from the study and treated following standard urological concepts. The other patients, ten in total, which had received four days of sulfatherapy during the urological manipulations were treated with vitamins for a total period of six weeks. After this period a new urinesediment and urine culture was obtained. When these results were negative and when the syndrome of chronic prostatitis, <<a contradictio in terminis in this

case>> was still present, Cernitin therapy was started. Four tablets were given in the morning for a total of twelve weeks to seven patients. After six weeks and at the end of the therapy the prostate was again massaged. Where prostatic secretion could be obtained total protein, LDH and acid phosphatase were determined and compared to similar determinations in the serum. Pherograms of protein and the isozymes of LDH and acid phosphatase were also determined. The total LDH and phosphatase were determined by the procedure of Berger and Broida [7] and Sigma technique [8] respectively. Total protein was determined by the biuret method [9]. The protein and enzyme pherograms were carried out according to a microelectrophoretic technique previously described [10] with modifications for the isozymes of LDH [11] and acid phosphatase [12]. The repeated touch diagram of the prostate attempted to define size, consistency, sensitivity and discernible longitudinal sulcus [13]. This rectal examination and massage in order to obtain prostatic fluid, executed after voiding, to clear the urethra, was the only form of treatment besides extract. Moderate restriction of alcohol was also advised.

A second group of five patients hospitalized for cerebral commotion was utilized as a control group to the remaining seven patients.

Results

In the group of seven patients with a syndrome compatible with chronic prostatitis but where no evidence of infection was detected, the following data were obtained.

The mean age was 36 (22-44). Slight urinary problems were present in each instance which was mainly the reason for their reference. These included frequency (4), urgency (4), hesitation (2), discomfort when urinating (7). None of them complained of urethral discharge. Three of them complained of loss of sexual desire and four had regular pain in one of the testicles, groin, or perineum. Five of them had some signs of neuropsychiatric irritability including anxiety, nervousness, and fatigue. All laboratory studies were normal in the seven patients including serum and acid phosphatase and LDH. The serum LDH isozymes were normal in each sample. The prostatic secretion obtained in five patients and which could only be collected in three cases after receiving therapy, was colorless in all instances. Acidity, total protein, total acid phosphatase, and total LDH determined in nine instances, are shown in table I. Quantitated pherograms of protein, LDH and acid phosphatase (Fig. 1, 2, 3) from these samples are shown in table II.

The average size of the touch diagram exceeded the normal size (2 a 3 cm wide, 2.5 cm long and 2 cm thick at the heaviest point) in five out of seven patients combined with softer consistency and tenderness in at least one out of three occasions of rectal examination. Transrectal biopsy of the prostate performed in two instances revealed fibrosis in both and lymphocytic infiltration in one occasion.

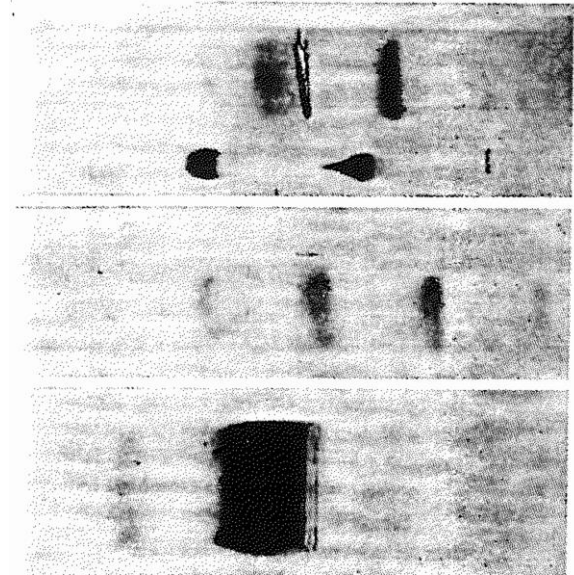


Fig. 1 – Photograph of pherogram of prostatic secretion. Three main fractions are clearly visible.

Fig. 2 – Photograph of LDH enzymogram of prostatic secretion. Five fractions are visible with a predominance of the middle fractions.

Fig. 3 – Photograph of acid phosphatase activity after electrophoretic separation by Gomori technique. Two fractions are present. The fraction to the left is albumin visualized by precipitation.

Following therapy, improvements of symptoms occurred in all seven patients. Therapy was discontinued in three of them. The other four still admitted slight abnormalities on close questioning and were kept on continuous therapy. In two out of three patients the sexual desire improved with disappearance of the symptoms. In the control group of five patients all laboratory investigations were normal. Rectal massage provided only two instances enough fluid for examination. The laboratory results obtained in these patients are presented in table I and II.

Discussion

A bacterial chronic prostatitis is a clinical syndrome which is vaguely defined, comprising a variable set of characteristic symptoms and findings on rectal examination of the prostate. Its only objective evidence is the histological aspect of deformed acini by an excess of fibromuscular

TABLE I

Values of total LDH, acid phosphatase and total protein in serum and prostatic secretion in patients with chronic prostatitis syndrome, *after six weeks of treatment, ** after twelve weeks of treatment and in a control series. Acidity of prostatic secretion is added in the last column.

Patients	Total LDH		Acid phosphatase		Total proteins		Acidity (Prostatic secretion)
	BB	Units	BB	Units	g %	g %	
R.T.	240	7.400	0.63	2.000	7.2	0.8	6.5
	—	*8.600	—	1.600	—	0.9	6.5
	—	**7.800	—	1.900	—	1.3	6.8
W.V.	320	9.200	0.53	1.600	6.8	1.5	6.7
	—	*6.800	—	1.800	—	0.8	6.5
N.H.	230	4.250	0.45	800	7.5	3.6	6.1
F.F.	200	6.700	0.53	1.750	7.1	1.8	6.2
	—	*7.200	—	1.900	—	1.1	6.5
M.F.	300	5.700	0.20	1.800	6.7	0.9	6.6
Controls							
L.P.	320	6.300	0.56	1.600	7.6	0.9	6.3
J.W.	180	8.250	0.49	1.500	6.8	2.4	6.5
A.P.	140	4.800	0.32	2.400	7.1	1.3	6.5

TABLE II

Representative example of quantitated electrophoretic study of prostatic secretion of one patient (W.V.)

Proteins	Fraction I		Fraction II		Fraction III	
	15 %		38 %		47 %	
LDH Isozymes	I	II	III	IV	V	
	7.26 %	23.30 %	35.37 %	22.94 %	6.13 %	
Acid Phosphatase	Fraction I		Fraction II			
	86 %		14 %			

stroma. This feature however is difficult to assess in a small surgical specimen which excludes the prostatic biopsy from the normal clinical evaluation of these patients. The aetiology is unknown and hypothesis range from psychomatic and autoimmune diseases. Therapy of course is not well defined and various measures including repeated prostatic massage to verbalization of symptoms have all been advocated [3]. A new form of treatment was studied by Leander, G. [14] and Jönson, G. [14] consisting of the oral administration of an extract

of pollen, Cernitine, with no bacteriostatic or bacteriocidal effect *in vitro* and mainly consisting of amino-acids, vitamins, and unknown steroids. Therapeutic relief was obtained in a large variety of patients with chronic prostatitis including bacterial and abacterial cases. These results can be compared to the symptomatic relief by amino-acid therapy in benign prostatic hypertrophy as reported by Damrau [15].

A successful clinical result was obtained with Cernitine in a group of patients with abacterial prostatitis. It should be noted however that the extensive questioning and investigation in these cases might already relieve some of these patients from their symptoms [16] and larger series will have to prove any statistical therapeutic effect of Cernitin against placebo. It can be conceived that Cernitin may have similar symptomatic relief effect in cases of true inflammatory prostatitis in combination with adequate chemotherapy. No adverse or side effects were noted in any patient. Attempts were made to determine biochemical parameters for the clinical diagnosis of chronic prostatitis by the determination of total serum LDH and acid phosphatase, serum LDH isozymes and acidity, total protein, total LDH, acid phosphatase and the pherogram of the proteins and the isozymes of LDH and acid phosphatase in the prostatic secretion as compared to a control group. These attempts were futile as shown in table I and II.

It showed also that no substantial difference occurred in any of these parameters after Cernitine therapy.

However, several interesting observations could be made concerning the results of the prostatic secretion. All obtained specimen had an acid reaction in contradiction to reports in the literature [17] where alkalinity of the prostatic secretion in described as a regular observation in chronic prostatitis. The total protein content of the prostatic secretion ranged between 0.89 mg percent to 3.6 mg% which are somewhat higher than the figures of Mann [18]. Electrophoretic separation of these proteins provided an identical pherogram both in diseased and control patients with three main fractions (Fig. 1). These fractions have been earlier described by Nylander [19]. No significant variations were noted in these fractions between the two groups as compared to previous reports of Soanes [20, 21]. This may be due to the absence of infection in these experiments since leukocytes or bacterial contamination may be responsible for the alteration of the protein spectrum in these reports. The total LDH activity and acid phosphatase

activity were marked in both groups and can be compared to the recently provided figures of Grayhack (22). The activity of LDH isozymes was mostly divided between the three middle fractions (Fig. 2). Five fractions were present in every instance. No relation of any particular enzymatic shift could be noted in relation to age, disease or therapy. The acid phosphatase of the prostatic secretion was composed of several fractions. We were able to obtain two fractions (Fig 3) in three instances, one main fraction in the a region, one smaller fraction in the b region. This phenomenon was already reported by Estborn [23] but received no further attention. Further investigation seems in order to study this duplicity of phosphatase in relation to the importance of this enzyme in clinical urology.

Conclusions

Seven patients with clinical syndrome of abacterial chronic prostatitis were treated with Cernitine. Subjectif relief was obtained in all cases. Statistical evaluation by double blind studies is necessary for definite evaluation. Attempts for determination of biochemical parameters in this disease regarding protein, LDH and acid phosphatase determinations were completely negative.

Summary

Seven patients suffering from the clinical syndrome of <<abacterial chronic prostatitis>> according to their symptoms and rectal examination were treated with Cernitin (Cernilton, AB Cernelle, Sweden) for twelve weeks. Relief of symptoms was complete in three marked in four. Further experiments for statistical evaluations are mandatory.

The study of protein, lactic dehydrogenase, and acid phosphatase in serum and prostatic secretion established no parameters for diagnostic or therapeutic evaluation.

References

1. Pelouze P.S. *Gonorrhoea in the male and female*. W.B. Saunders Co., Philadelphia, 1939.

2. Farman F., McDonald D.F. Modern concepts of inflammation of the prostate. *Geriatrics*. 16, 63-68, 1961.
3. Gartman E. Rational approach to treatment of chronic prostatitis. *Sth med. J.*, 53, 1558-1561, 1960.
4. Swinney J. *Chronic prostatitis: Modern trends in urology*. Butterworths, London, 1960, 223-234.
5. Tanner F.H. McDonald J.R. Granulomatous prostatitis. *Arch. Path.*, 36, 358-363, 1943.
6. Ask-Upmark E. Die Behandlung der Prostatitis. *Z. Urol.*, 56, 1963.
7. Berger L.C., Broida D.T. Lactic dehydrogenase. Determination: colorimetric method. *Technical Bulletin*. No. 500, Sigma Chemical Company, St. Louis, MO.
8. Acid phosphatase determination. Prepared by Sigma Chemical Company, St. Louis, MO.
9. Cornell A.G., Bardawill, C.J., David M.M. Determination of serum proteins by means of the Biuret reaction. *J. biol. Chem.*, 177, 751-759, 1949.
10. Denis L.J., Prout G.R. J.r., Van Camp K., Van Sande M. A microelectrophoretic technique. Its use in studying body fluids and tissue extracts and tissue. *J.A.M.A.*, 178, 1093-1097, 1961.
11. Denis L.J., Prout G.R. Jr., Van Camp K., Van Sande M. Electrophoretic characterization of the prostate. I. Proteins and lactic dehydrogenase in benign hyperplasia and carcinoma. *J. Urol.*, 88, 77-85, 1962.
12. Gomori G. Distribution of acid phosphatase in the tissues under normal and under pathological conditions. *Arch. Path.*, 32, 189-199, 1941.
13. Brendler H.B., Prout G.R. Jr. A cooperative group study of prostatic cancer stillbestrol versus placebo in advanced progressive disease. *Cancer Chemoth. Rep.*, 16, 323-328, 1962.
14. *Cernelle Symposium fur Urologic*. Halsinborg, Schweden, Octorber 1963.
15. Damrau F. Benign prostatic hypertrophy: amino-acid therapy for symptomatic relief. *J. Amer. Geriat. Soc.*, 10, 426-430, 1962.
16. Lewin K.K. Emotional aspects of chronic prostatitis. *Geriatrics*, 18, 261-264, 1963.