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Clinical Study of Patients With Prostatitis in Basrah and Missan Governments: A Case –Control Study

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ABSTRACT

The Aim of this study was to determine Immunogenetic expression of Toll-like receptor gene clusters related to prostatitis, to give acknowledge about Role of TLR in prostatitis immunity in men from Basrah and Maysan provinces. A case–control study included 135 confirmed prostatitis patients And 50 persons as a control group. Data about age, marital status, working, infertility, family history and personal information like (Infection, Allergy, Steroid therapy, Residency, Smoking, Alcohol Drinking, Blood group, Body max index (BMI) and the clinical finding for all patients of Prostatitis were collected. From total number of (135) patients with prostatitis were taken from two provinces (Basrah and Missan) from the Basrah teaching hospital and Missan teaching hospital that included in the present study , In the clinical study found that patients presented with irritative symptoms with P-value <0.0001. The study also found that patients presented with Obstructive symptoms with P-value <0.0001. The study also found patients presented with Other symptoms with P-value <0.0001. And present study found that patients with Suprapubic Tenderness with P-value <0.0001. And in clinical symptoms show that the age group 40-49 years with P-value <0.0001. Age group 50-59 years found with P-value <0.0001. The third age group 60-69 years and the final age group >70 years with P-value <0.0001.

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Introduction

Prostatitis is an inflammation of the prostate gland. There are four various categories of prostatitis will be described in this review and the classification of these types depends on the symptoms and the manifestation of the condition [1]. Three of these types are symptomatic and one is an asymptomatic. The first type is Acute bacterial prostatitis (category I) occur because of a bacterial infection, usually of a gram negative bacteria such as *Escherichia coli*, and the patients who have symptoms that includes significant pelvic pain, dysuria because of prostatic swelling and systemic fever. And there are scarcely long term side effects of this type of prostatitis after antibiotic therapy [2,3].

One of the difficulties in determining the mechanisms of prostatitis is that the categories I and II prostatitis are caused by bacteria, including *Escherichia coli*, *Klebsiella*, *Enterobacter and Pseudomonas*, greater numbers of cases are category III, for that etiology and pathogenesis are unknown [4,5].

Studies to now have failed to determine an ongoing infection in these men from any sexually transmitted organisms, including *Chlamydia trachomatis*, *Ureaplasma urea-lyticum*, *Mycoplasma. Hominid* or *Trichomonas vaginalis* [6]. The use of molecular techniques to look for uropathogenic bacteria in CPPS was recently concise. The starting point for investigation into the pathogenesis of CP/CPPS it's the inflammation. Traditionally the total number of white blood cells (WBCs) in prostatic fluids has studied and believed to be making for an inflammatory process that combined with the symptoms of prostatitis. The use of WBCs as evidence of inflammation is limited for several reasons. WBCs may be found in the prostatic fluid or seminal plasma of men with asymptomatic prostatitis also in men with pelvic pain [7]. Therefore, in symptomatic men, none of the measures of the NIH-CP Symptom Index, including subsets for pain, urinary and quality of life, may show any correlation with WBCs in EPS, VB3 or seminal plasma. Another reasoning against an association between inflammation and symptoms is in the patients with category IIIB have symptoms but without inflammation and in contrast with those who have category IV be marked with inflammation but no symptoms.

Materials and methods

Sampling

This case control study was conducted between October 2019 to July 2020 in Basrah and Missan province. During collection process data about each patient were reported in the paper questionnaire for each one, which included age, marital status, infertility, family history, personal information and clinical finding of the diseases. Blood samples were collected from peoples that are symptomatic and asymptomatic patient in various hospitals of

Basrah and Missan province. From a total number of (135) patients with prostatitis were taken from two provinces from the Basrah teaching hospital and Missan teaching hospital that included in the present study and the age of patients was between 40 - >70 years and (50) individuals regarded as a control group without any urological problems were also studied.

Clinical examination

1. Lower urinary tract symptoms: It is necessary to identify that the patient may be suffering from pain, it can be Irritative (dysuria, frequency and Urgency), or Obstructive signs such as (weak stream, Hessitency, Intermittency and Retention of urine), despite of other symptoms like (Fever, Rigor, perineal pain, Low back pain and Urethral discharge).
2. Physical examination: may not be pertinent physical finding present in patients, beside the abdominal exam may reveal if there is any suprapubic tenderness.
3. Digital Rectal exam (DRE): to see if the prostate gland is bogy or tender prostate.
4. Imaging: ultrasound to determine the size of an enlarged prostate gland, all of these exams are done by the specialized urologist exclusively.

Statistical analysis

Statistical analysis is performed with SAS JMP Pro statistical program version 13.2.1 and Microsoft Excel 2013. Numerical data were described as mean, standard deviation of the mean. Logistic regression was used for comparison between various groups. The lowest level of accepted statistical significant difference is below or equal to 0.0001.

Clinical Studies

Table (1) shows the majority of the clinical observation in patients with prostatitis, we found that patients presented with irritative symptoms that include 65 (35.14%) patients with Dysuria, 31 (16.76%) patients with Frequent urination and 14 (7.57%) patients with Urgency. This study also found that patients presented with Obstructive symptoms that include 26(14.05%) patients with Hessitency, 17 (9.18%) patients with intermittent, 9 (4.86%) patients with Retention and 58 (31.35%) patients with Weak stream. This study also found patients presented with Other symptoms that include Fever 51 (27.57%), Rigor 25 (13.51%), Perianal pain 3 (1.62%), Low back pain 27 (14.59%) and Urethral discharge 4 (2.16%). The study found that patients presented with Suprapubic Tenderness were 78 (42.16%) with no suprapubic tenderness and 32 (17.30%) with suprapubic tenderness.

Table 1: illustrates the number and percentage of the clinical observation in patients with prostatitis

Clinical observation	Prostatitis		Prostitis		Total		P -value
	No.	%	No.	%	No.	%	
Types of symptoms							
Irritative symptoms							
Dysuria	65	35.14	16	8.65	81	43.79	<0.0001
Frequent	31	16.76	2	1.08	33	17.84	
Urgency	14	7.57	0	0	14	7.57	
Obstructive symptoms							
Hessitency	26	14.05	5	2.70	31	16.75	<0.0001
Intermittency	17	9.18	3	1.62	20	10.8	
Retention	9	4.86	1	0.54	10	5.4	
Weak stream	58	31.35	8	4.32	66	35.67	
Other symptoms							
Fever	51	27.57	6	3.24	57	30.81	<0.0001
Rigor	25	13.51	4	2.16	29	15.67	
Perianal pain	3	1.62	4	2.16	7	3.78	
Low back pain	27	14.59	2	1.08	29	15.67	
Urethral discharge	4	2.16	2	1.08	6	3.24	
Suprapubic tenderness							
No	78	42.16	14	7.57	92	49.73	<0.0001
Yes	32	17.30	4	2.16	36	19.46	

P <0.0001

Clinical Symptoms

Table (2) shows the frequency of clinical symptoms among various age groups of patients with prostatitis, that found the age group 40-49 years with Irritative symptoms was 16 (32.00%), Obstructive symptoms 23 (38.98%) and Others symptoms (accompanied symptoms) 23 (38.98%) with P-value <0.0001. Age group 50-59 years found that 46 (68.66%) of patients with Irritative symptoms followed by 53 (69.79%) of patients with Obstructive symptoms and 46 (68.66%) of patients with Others symptoms (accompanied symptoms) with P-value <0.0001. The third age group 60-69 years show 37 (75.51%) of patients with Irritative symptoms, 23 (79.31%) with Obstructive symptoms and 26 (72.22%) of patients with Others symptoms (accompanied symptoms). The final age group >70 years show 9 (56.25%) with Irritative symptoms, 9 (56.25%) of patients with Obstructive symptoms and 15 (65.22%) with Others symptoms (accompanied symptoms).As seen in the following table (2).

Table 2: illustrates various clinical symptoms among various age groups of patients with prostatitis

Age groups	Symptom	Prostatitis		Prostitis		Control		P-value
40 -49	Irritative	16	32.00	0	0	34	68.00	<0.0001
	Obstructive	23	38.98	0	0	36	61.02	<0.0001
	Others	23	38.98	0	0	36	61.02	<0.0001
50 -59	Irritative	46	68.66	3	4.48	18	26.87	<0.0001
	Obstructive	53	69.79	3	3.95	20	26.63	<0.0001
	Others	46	68.66	3	4.48	18	26.87	<0.0001
60 -69	Irritative	37	75.51	5	10.20	7	14.29	<0.0009
	Obstructive	23	79.31	5	17.24	1	4.45	0.0745
	Others	26	72.22	7	19.44	3	8.33	0.0006
>70	Irritative	9	56.25	7	43.75	0	0	Non
	Obstructive	9	56.25	7	43.75	0	0	Non
	Others	15	65.22	8	34.78	0	0	0.1381

P <0.0001

Discussion

In the present study it is found that patients presented with irritative symptoms that include 65 (35.14%) patients with Dysuria, 31 (16.76%) patients with Frequent urination and 14 (7.57%) patients with Urgency, with P-value <0.0001. This study also found that patients presented with Obstructive symptoms that include 26(14.05%) patients with Hessitency, 17 (9.18%) patients with intermittent, 9 (4.86%) patients with Retention and 58(31.35%) patients with Weak stream , with P-value <0.0001. The study also found patients presented with Other symptoms that include Fever 51 (27.57%), Rigor 25 (13.51%), Perianal pain 3 (1.62%), Low back pain 27 (14.59%) and Urethral discharge 4 (2.16%) with P-value <0.0001. The present study found that patients with Suprapubic Tenderness were 78(42.16%) with no suprapubic tenderness and 32 (17.30%) with suprapubic tenderness. Our results agree with the results of (Coker and Dierfeldt., 2016) that he says Patients with acute bacterial prostatitis often present with acute onset of irritative (e.g., dysuria, urinary frequency, urinary urgency) or obstructive (e.g., hesitancy, incomplete voiding, straining to urinate, weak stream) voiding symptoms. Patients may report suprapubic, rectal, or perineal pain.

Ludwig., agree with the results of the present study when he says systemic symptoms, such as fever, chills, nausea, emesis, and malaise, commonly occur, and their presence should prompt physicians to determine if patients meet clinical criteria for sepsis [8]. The physical examination should include an abdominal examination to detect a distended bladder and costovertebral angle tenderness, a genital examination, and a digital rectal examination. A digital rectal examination should be performed gently because vigorous prostatic massage can induce bacteremia, and subsequently, sepsis [9]. In a patient with acute bacterial prostatitis, the prostate will often be tender, enlarged, or boggy. If there is concern for obstructed voiding, post void residual urine volumes should be measured using ultrasonography.

The majority of other symptoms (accompanied symptoms) tend to be high in chronic patients observed that fever ,rigor and low back pain show high frequencies and also mentioned that he say Chronic bacterial prostatitis symptoms such as supra pubic, lower back, or perineal pain, with or without mild urgency and increased frequency of urination and dysuria may be intermittent during a period of weeks and months and this agree with our study results [10]. Therefore the finding of these symptoms and signs must be associated with prostatitis despite of its causes with a little different in appearing symptoms between various categories of prostatitis that mentioned in this study.

The results show that the age group 40-49 years with Irritative symptoms was 16 (32.00%), Obstructive symptoms 23 (38.98%) and Others symptoms (accompanied symptoms) 23 (38.98%) with P-value <0.0001. Age group 50-59 years found that 46 (68.66%) of patients with Irritative symptoms followed by 53 (69.79%) of patients with Obstructive symptoms and 46 (68.66%) of patients with Others symptoms (accompanied symptoms) with P-value <0.0001. The third age group 60-69 years show 37 (75.51%) of patients with Irritative symptoms, 23 (79.31%) with Obstructive symptoms and 26 (72.22%) of patients with Others symptoms (accompanied symptoms). The final age group >70 years show 9 (56.25%) with Irritative symptoms, 9 (56.25%) of patients with Obstructive symptoms and 15 (65.22%) with Others symptoms (accompanied symptoms).

Our results go with studies done by he stated that Acute prostatitis is characterized by a severe urinary tract infection (UTI), irritative and obstructive voiding symptoms with generalized urosepsis [11]. Acute prostatitis responds promptly to antimicrobial therapy, and is usually self-limiting. Chronic bacterial prostatitis is usually associated with mild to moderate pelvic pain symptoms and intermittent episodes of acute UTIs. Long-term antimicrobial therapy is curative in about 60% to 80% of patients. And Most men with “chronic prostatitis” have chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), characterized by pelvic pain (i.e., perineal, suprapubic, testicular, penile) variable urinary symptoms and sexual dysfunction (primarily pain associated with ejaculation) [11-13]. Also support our study when she found the clinical presentation of ABP may be highly variable with symptoms ranging from mild to severe. Recognizing CBP can be difficult, as the history and examination are highly variable. All patients note some degree of genitourinary pain or discomfort [4].Common presentations include recurrent urinary tract infections with no history of bladder instrumentation, dysuria and frequency with no other signs of ABP or new onset sexual dysfunction without other etiology [15 -18].

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