

# Do the medical treatment reduces the rate of surgical treatment in suspected cases of chronic prostatitis before prostatectomy?

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**Abstract.** – **AIM:** Our aim is to investigate how the chronic intraprostatic inflammation affect the course of the BPH (benign prostatic hyperplasia).

**PATIENTS AND METHODS:** Between the dates of 2007-2011, the files of the patients who had TUR-P (transurethral resection of the prostate) and underwent open surgery were retrospectively reviewed because of BPH, and the patients were divided into two groups who were operated due to AUR (acute urinary retention) or LUTS (lower urinary tract symptoms) and the clinical data and pathology results of the two groups were compared in terms of chronic intraprostatic inflammation.

**RESULTS:** There were evaluable data of 130 of 150 patients. The age range of the patients was 50-88. 52 of the 130 patients due to AUR and 78 of them due to LUTS underwent surgery. While there was chronic inflammation in 59 of the 130 patients, there was not in 71. The volume of the prostate and the average age of those who had chronic prostatitis with the combination of AUR were greater compared to the LUTS.

**CONCLUSIONS:** It seems that chronic prostatitis is a factor which is often accompanied by BPH and affects the progression and pathology of the disease. The risk of acute urinary retention is more frequent in patients with chronic inflammation than in those who lack. In the future, related clinical trials with the relationship between the intraprostatic inflammation and BPH treatment are necessary and should include more cases and longer period of follow-up for these studies.

*Key Words:*

Intraprostatic inflammation, Benign prostatic hyperplasia, Transurethral resection of the prostate.

## Introduction

Benign prostatic hyperplasia (BPH) is a disease of elderly patients which increases its preva-

lence and incidence with age<sup>1</sup>. BPH together with the dominant mesenchymal cells is defined as the enlargement of the prostate gland secondarily to the hyperproliferation of the stromal and glandular cells<sup>2</sup>. BPH is a pathology that affects an estimated 70% of men between the ages of 61-70 and 90% of those who are 81-90 years old. BPH and the chronic prostatitis often occur together and this can only be determined after the pathological examination. The symptoms of the prostatitis may not have in these cases previously<sup>3,4</sup>.

Although the prevalence of both conditions increases with age, the relationship between the two has attracted very little attention. Lower urinary tract symptoms (LUTS) appear as a clinical sign of BPH. The progression of LUTS may result in acute urinary retention. Our goal here is to display the relationship between LUTS and acute urinary retention (AUR) and the chronic inflammation (CI) in BPH and is to determine whether there is a marked difference among the patients who underwent surgical treatment due to AUR or LUTS.

## Patients and Methods

Between the dates of 2007-2011, the files of the patients who underwent transurethral resection of the prostate (TUR-P) and/or open surgery due to BPH were retrospectively analyzed. Some of these patients consisted of the patients who applied to the Emergency Clinic due to AUR or to the Urological Clinic due to LUTS. Patients were separated into two groups who were operated due to AUR or LUTS and clinical data and pathology results of the two groups were compared in terms of chronic intraprostatic inflammation. Evaluation of the prostatic inflammation

**Table I.** The differences between those with chronic prostatitis and without chronic prostatitis.

	With CI (N = 59)	Without CI (N = 71)	
Age (Avg. ± SS)	67 ± 8.6	64.9 ± 7.9	<i>p</i> > 0.05
The volume of prostate (Avg. ± SS)	77.2 ± 31.1	60.8 ± 20.8	<i>p</i> < 0.05

was done according to registered results of the pathology. The parameters such as edema, vascular congestion, leukocyte, lymphocyte, macrophage, the presence of the plasma cells were taken into consideration in the registered notes. Those who had bladder stones and prostate cancer were excluded from the evaluation.

**Statistical Analysis**

Was performed by using Student’s t-test and ANOVA test of SPSS, version 16.0 (SPSS Inc., Chicago, IL, USA). *p*-values < 0.05 were considered statistically significant.

**Results**

They did not enroll in the study because the data of 20 of 150 patients was not completely reached. The age range of the patients varied between 54-86. 52 of 130 patients due to AUR and 78 of them due to the LUTS underwent surgery. While chronic prostatitis was detected in 59 of the 130 patients, chronic prostatitis was not detected in 71. The prostate volume of those with chronic prostatitis was found significantly higher than in those without chronic prostatitis (*p* < 0.05). Significant difference was not detected in terms of age (*p* > 0.05), (Table I). Chronic prostatitis was detected in 61.1% of those with AUR and in 35.1% of those with LUTS. The volume of age and prostate in those with AUR and who had prostatitis was significantly higher than those with LUTS and who had prostatitis (*p* < 0.05)

(Table II). Likewise, while the volume of prostate in those with AUR but without chronic prostatitis was significantly different compared to those whose prostate volume was both AUR and LUTS (*p* < 0.05), significant differences were not detected in terms of age (*p* > 0.05), (Table III).

The characteristics of the patients have been summarized in Table I, II and III.

**Discussion**

Asymptomatic chronic inflammation of the prostate is a common finding of BPH. BPH is a pathology affecting an estimated 70% of men whose ages are between 61-70 and 90% of those whose ages are between 81-90. Prostatitis is a histologic diagnosis. This can only be confirmed by the demonstration of prostatic inflammation with a microscope. Clinical prostatitis can be divided into two categories named the acute and the chronic bacterial prostatitis (NIH category I and II), these are rare diseases of the inflammation of the prostate gland. The types which are seen more commonly are the chronic prostatitis/chronic pelvic pain syndrome (category III chronic prostatitis/chronic pelvic pain syndrome or CP/CPPS) and the prostatitis of asymptomatic inflammatory. (Category IV)<sup>5</sup>.

There may be the symptoms that preoccupy the prostatitis in 20% of those with BPH together with LUTS (3.6). However, in the relationship between BPH and prostatitis, BPH and chronic prostatitis often occur together, and this

**Table II.** The differences between those who have chronic prostatitis with AUR and those who have chronic prostatitis with LUTS.

	AUR (N = 33)	LUTS (N = 26)	
Age (Avg. ± SS)	70.5 ± 8.4	62.5 ± 6.5	<i>p</i> < 0.05
The volume of prostate (Avg. ± SS)	91.3 ± 26.7	59.3 ± 27.1	<i>p</i> < 0.05

**Table III.** The differences between those who do not have chronic prostatitis with AUR and those who do not have chronic prostatitis with LUTS.

	AUR (N = 19)	LUTS (N = 52)	
Age (Avg. ± SS)	65.8 ± 7.1	64.5 ± 8.2	<i>p</i> > 0.05
The volume of prostate (Avg. ± SS)	65.2 ± 19.2	58.3 ± 21.3	<i>p</i> < 0.05

can only be determined after the pathological examination. Histologically, prostatic inflammation is determined often in the specimens of biopsy, surgical and autopsy. Even though the prostatic inflammation is determined in 5-15.3% of the autopsy specimens of the patients over the age of 60<sup>7</sup>, these rates have been around 44% in the autopsy samples of Mc-Neal's prostate<sup>8</sup>. This rate has been found as 45% in the biopsies which were done with the suspected of the prostate cancer<sup>9</sup>.

The symptoms of prostatitis may not be in these cases previously. Nickel et al<sup>3,4,10</sup> suggested that the intraprostatic inflammation affected the progression of BPH.

Mishra et al<sup>6</sup> suggested that the inflammation of asymptomatic chronic infraprostatic would be able to affect the progression of BPH and the risk of AUR. Although the prevalence of chronic inflammation was 46.4% in the studies which were carried out, the rates of chronic inflammation in the study of Mishra et al were found as 51%. These rates have varied in various cases which were presented<sup>6,10,11</sup>. Despite this, there is not still a detailed clinical study about the relationship between the inflammation of intraprostatic and the treating effect of BPH. In our study, while the rates of chronic inflammation in those with AUR were 61.1%, it has been found to be 35.1% in LUTS and this has been seen over the rates in the literature.

Kefi et al<sup>12</sup> suggested that the inflammation of intraprostatic was more factors that led to the AUR than the volume of prostate, age and PSA level. In our study, it was observed that AUR showed an increase with older age and the volume of prostate and again chronic inflammation was more frequently in older ages and in the AUR. In our study, it was determined that togetherness of chronic inflammation with AUR showed an increase with the advanced age and the volume of prostate.

A variety of the methods of the surgical treatments have been suggested for the prevention of this process since the intraprostatic inflammation

resulted in the togetherness of BPH and surgical treatment. Medical treatments such as NSAID, alpha-blockers and antibiotics are one of the examples of them<sup>13-15</sup>. It has been suggested that non steroidal antinflammatory drugs (NSAID<sub>s</sub>) delayed the development of BPH by inhibiting the proliferation and by inducing the apoptosis in the hyperplastic cell. Similar effects have been shown in several studies<sup>6,16,17</sup>.

With these data, when treated surgically, BPH is a disease that affects the aging population and whose both morbidity and mortality and cost are high. It seems that the prevention of all of these unintended negativeness and especially the patients with chronic inflammation will pass through the process of medical treatment and will occupy our agenda as an important issue. Indeed, if the hypothesis is correct that the progression of chronic inflammation of the prostate plays a role in the development of AUR, it is required to do more randomize studies in this regard<sup>7</sup>.

## Conclusions

Chronic prostatitis has been seemed to be a factor that is often accompanied by BPH and affects the progression and pathology of the disease. The symptom of chronic inflammation is a state that can be treated easily. The risk of acute urinary retention in those with chronic inflammation is more frequent than those with LUTS. Therefore, more studies that will be done in the future in this regard will put more clearly the relationship between intraprostatic inflammation and LUTS and AUR and we think that in the medical treatment of the patients with BPH will be able to open up a new horizon. In the light of these results and the data in the literature, before referring to the surgery in BPH, we hope that the medical treatment will largely turn to the surgical treatment in patients in a sufficient time and will protect from the possible complications.

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