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Management of male lower urinary tract symptoms suggestive of benign prostatic hyperplasia by general practitioners in Jakarta

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Purpose: This study was performed to describe and evaluate the management of male lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) by general practitioners (GPs) in Jakarta.

Methods: This observational cross-sectional study was peformed between January 2013 and August 2013 in Jakarta. We developed a questionnaire consisting of 10 questions describing the management of male LUTS suggestive of BPH by GPs in their daily practice in the previous month. We collected questionnaires from 200 GPs participating in 4 urology symposiums held in Cipto Mangunkusumo Hospital, Jakarta.

Results: Most GPs were aged between 25 and 35 years (71.5%) and had worked for more than 1 year (87.5%). One to 5 cases of male LUTS suggestive of BPH were treated by 81% of GPs each month. At diagnosis, the most common symptoms found were urinary retention (55.5%), frequency (48%), and nocturia (45%). The usual diagnostic workup included digital rectal examination (65%), scoring system (44%), measurement of prostate-specific antigen (PSA) level (23.5%), and renal function assessment (20%). Most GPs referred their male patients with LUTS suggestive of BPH to a urologist (59.5%) and 46.5% of GPs prescribed drugs as an initial therapy. Alpha-adrenergic antagonist monotherapy (71.5%) was the most common drug prescribed. Combination therapy with α-adrenergic antagonists and 5α-reductase inhibitors was not routinely prescribed (13%). Thirty-eight percent of GPs referred their patients when recurrent urinary retention was present and 33% when complications were present.

Conclusions: Our study provides evidence that the management of male LUTS suggestive of BPH by GPs in Jakarta suggests referral in part to available guidelines in terms of diagnostic methods and initial therapy. However, several aspects of the guidelines, such as PSA level measurement, renal function assessment, urinalysis, ultrasound examination, and prescription of combination therapies, are still infrequently performed.

Keywords: Prostatic hyperplasia, Lower urinary tract symptoms, General practitioner

INTRODUCTION

Benign prostatic hyperplasia (BPH) is the most common urological condition, and benign enlargement in men older than 50 years of age is becoming an important issue in general practice owing to the increasing number of aging men [1]. BPH is a pathologic process that contributes to, but is not the sole cause of, lower urinary tract symptoms (LUTS) and for which age and the patient's hormonal status are proven as risk factors [2,3]. The incidence and prevalence of BPH increases with age until the age of 80 years [4]. Hyperplasia usually starts to develop in the glandular and fibromuscular tissue of the prostate from 30 to 40 years of age and continues from 50 to 60 years of age [1].

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Bothersome LUTS are associated with a negative impact on quality of life (QoL) [5]. Impairment of QoL is mostly caused by nocturia and a weak urinary stream [6]. The validity of simple diagnostic tools such as medical history, International Prostate Symptom Score (IPSS), digital rectal examination (DRE), and measurement of the serum prostate-specific antigen (PSA) level has been proven in studies such as the diagnosis improvement in primary care trial (D-IMPACT) study [7]. However, in a study performed by Fourcade et al. [8], only less than half of men who presented with LUTS suggestive of BPH were diagnosed by use of a standardized assesment by GPs. Treatment decisions should be based on the patient's QoL as measured by questionnaires such as the IPSS to assess the impact of the LUTS on psychological well-being and social activity [9,10].

The progressive development of conservative therapy for male LUTS suggestive of BPH has shifted the paradigm of LUTS management. Patients without bothersome symptoms and signs of complications can be offered watchful waiting therapy [11]. Conservative treatment is preferred for men with moderate to severe LUTS without absolute indications for invasive treatment [9,10,12]. General practioners now have a wider role owing to increased numbers of conservative management options such as use of α-adrenergic antagonists and 5α-reductase inhibitors (5-ARIs). These drugs have been known to improve LUTS and reduce serious complications in BPH patients such as acute urinary retention, urinary tract infection, and decreased renal function; hence, they may improve patients' QoL and reduce the risk of these complications [5].

The main objective of this observational study was to desribe the management of male LUTS suggestive of BPH, including diagnostic measures and treatment, by GPs in Jakarta. We then evaluated whether this particular management pattern adhered to available guidelines.

MATERIALS AND METHODS

This observational cross-sectional study was peformed between January and August 2013. We collected questionnaires from 200 GPs participating in 4 urology symposiums for GPs held in Cipto Mangunkusumo Hospital in Jakarta. The questionnaires were self-administered by the GPs. All of the participants worked in Jakarta.

We developed a questionnaire consisting of 10 items on the management of male LUTS suggestive of BPH in the daily practice of GPs in the previous month. Included in the questionnaire were characteristics of the GPs, the most common symptoms of the patients, initial diagnostic workup, the most common scoring system used, initial therapy, initial drugs prescribed, time to follow-up, evalution at follow-up, referral criteria, common α-adrenergic antagonists prescribed, and common α-adrenergic antagonist-related side effects. Descriptive analysis was provided for each question.

RESULTS

1. Characteristics of GPs

We collected data from a total of 200 GPs. Most of the GPs were aged from 25 to 35 years (71.5%) and had worked for more than 1 year. These GPs worked in clinics (55.5%), hospitals (36%), and general primary care (8.5%). Most of them (81%) dealt with 1 to 5 men with LUTS suggestive of BPH each month (Table 1).

2. Diagnosis of male LUTS suggestive of BPH

We found that the most common symptoms were urinary retention (55.5%), followed by frequency (48%) and nocturia (45%) (Fig. 1). The usual diagnostic workup performed included DRE (65%), scoring system (44%), PSA level measurement (23.5%), and renal function assessment (20%). Urinalysis and abdominal ultrasound were performed by only 19% and 17% of GPs, respectively. Imaging study was not routinely

Table 1. Characteristic of general practitioners (n=200)

Characteristic	No. (%)
Age (yr)	
25–30	119 (59.5)
31–35	24 (12.0)
36–40	19 (9.5)
41–45	12 (6.0)
46–50	12 (6.0)
>50	14 (7.0)
Workplace	
Clinic	95 (47.5)
Hospital	72 (36.0)
General primary care	17 (8.5)
Others	16 (8.0)
Length of practice (yr)	
<1	25 (12.5)
1–2	68 (34.0)
3–5	32 (16.0)
>5	75 (37.5)
No. of BPH patient (each month)	
1–5	162 (81.0)
6–10	16 (8.0)
11–20	17 (8.5)
>20	5 (2.5)

BPH, benign prostatic hyperplasia.

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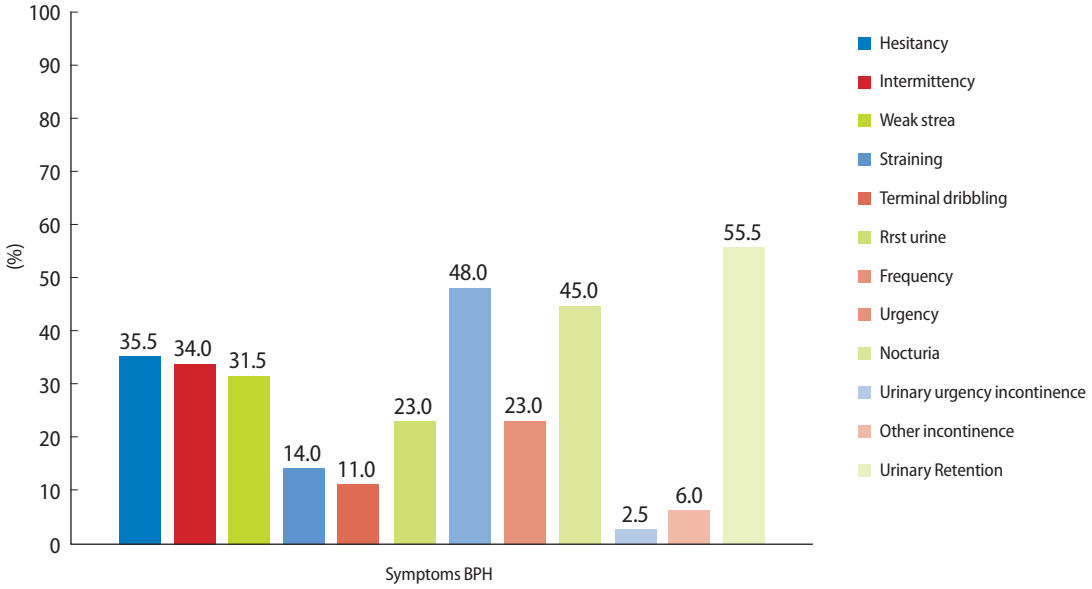

Fig. 1. Symptoms of male lower urinary tract symptoms suggestive of benign prostatic hyperplasia (BPH).

Table 2. Diagnostic workup of male LUTS suggestive of BPH (n=200)

Variable	No. (%)
Initial Diagnostic workup[a]	
Scoring system	88 (44.0)
Digital rectal examination	130 (65.0)
Urinalysis	38 (19.0)
Renal function	40 (20.0)
Prostate-specific antigen	47 (23.5)
Uroflowmetry	9 (4.5)
Abdominal USG	34 (17.0)
BNO cystogram	2 (1.0)
BNO IVP	18 (9.0)
Others	13 (6,5)
Length to follow-up	
2 Weeks	161 (80.5)
1 Month	25 (12.5)
2 Month	1 (0.5)
Others	13 (6.5)
Diagnostic workup at follow-up[a]	
Scoring system	1 (0.5)
Digital rectal examination	67 (33.5)
Urinalysis	34 (17.0)
Prostate-specific antigen level	20 (10.0)
Uroflowmetry	12 (6.0)
Side effects	65 (32.5)
Others	8 (4.0)

LUTS, lower urinary tract symptoms; BPH, benign prostatic hyperplasia; USG, ultrasonography; BNO IVP, *blass nier overzicht* intravenous pyelogram.
[a]Answer can be more than 1 option.

done. The IPSS was the most common scoring system used in diagnosing male LUTS suggestive of BPH (61%) (Table 2).

3. Treatment of male LUTS suggestive of BPH

Our findings showed that most GPs referred their patients to a urologist (59.5%), and 46.5% prescribed drugs as an initial therapy. Alpha-adrenergic antagonist monotherapy (71.5%) was the most common drug prescribed. Combination therapy of α-adrenergic antagonists and 5-ARIs was not routinely given (13%). Dizzinesss (33%) and orthostatic hypotension (26.5%) were the most common side effects found. The patients were followed up 2 weeks after treatment by 80.5% of GPs. On follow-up, most GPs performed a DRE (33.5%) and monitoring of drug side effects (32.5%) (Table 3). Among the criteria for referral to a urologist, 38% of GPs referred patients when recurrent urinary retention was present and 33% when complications were present (Fig. 2).

DISCUSSION

The results of the present study showed that urinary retention was the most common symptom (55.5%) that brought patients to a GP. Contrary to this finding, urinary retention was not a common symptom reported by GPs in a survey performed by Montorsi and Mercadante [6] of GPs in France, Germany, Italy, Spain, and the United Kingdom. Urinary retention was found in only 6.8% of BPH cases. This difference is probably because patients' awareness of BPH symptoms and compliance with a routine medical checkup are higher

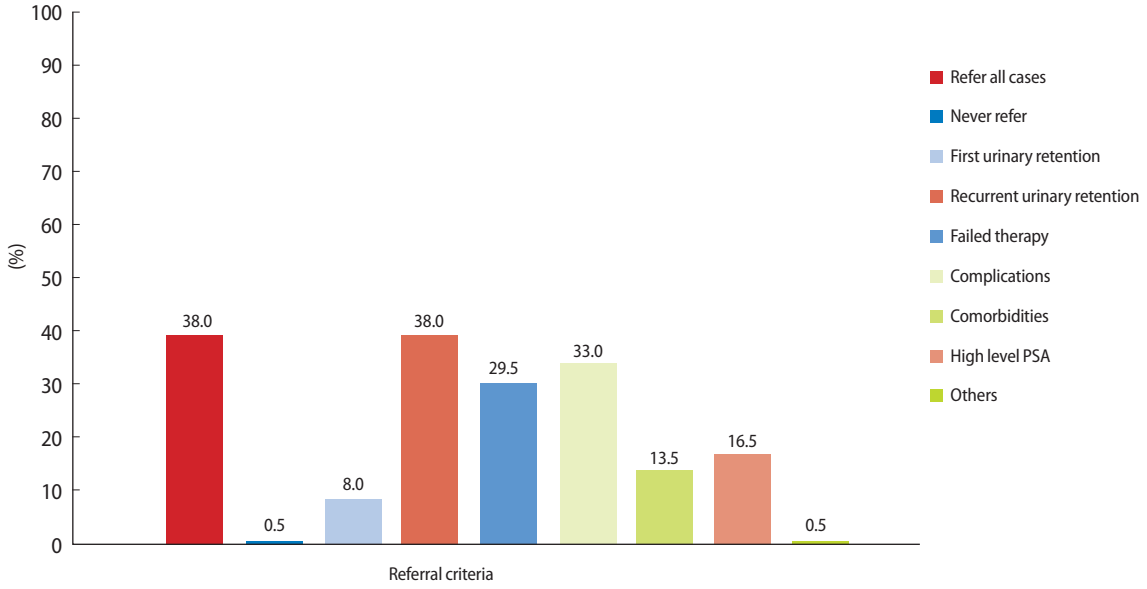

Fig. 2. Referral criterias of male lower urinary tract symptoms suggestive of benign prostatic hyperplasia (BPH). PSA, prostate-specific antigen.

Table 3. Treatment of male LUTS suggestive of BPH (n=200)

Variable	No. (%)
Intial therapy[a]	
Drugs	93 (46.5)
Refer	119 (59.5)
Watchful waiting	37 (18.5)
Others	9 (4.5)
Drugs	
α-Adrenergic antagonists	143 (71.5)
5-ARI	11 (5.5)
α-Adrenergic antagonists + 5-ARI	18 (9.0)
α-Adrenergic antagonists + 5-ARI in large volume prostate	8 (4.0)
α-Adrenergic antagonists + 5-ARI + antimuscarinic	13 (6.5)
Phytotherapy	7 (3.5)
α-Adrenergic antagonists	
Tamsulosin	129 (64.5)
Terazosin	29 (14.5)
Doxazosin	19 (9.5)
Alfuzosin	6 (3.0)
Others	2 (1.0)
Without α-adrenergic antagonists	15 (7.5)
Side effect of α-adrenergic antagonistsa)	
Asthenia	22 (11.0)
Dizziness	66 (33.0)
Orthosatic hypotension	53 (26.5)
Erectile dysfunction	19 (9.5)
Abnormal ejaculation	4 (2.0)
Others	4 (2.0)

LUTS, lower urinary tract symptoms; BPH, benign prostatic hyperplasia; 5-ARI, 5α-reductase inhibitor.
[a]Answer can be more than 1 option.

in Europe than in Indonesia, where BPH patients tend to seek medical help when severe symptoms or complications are already present. Urinary retention is one of the most common complications of male LUTS suggestive of BPH and becomes one of the indications for surgery [9,10]. Both delay in diagnosis and ineffective treatment are responsible for urinary retention episodes.

Frequency and nocturia were also common symptoms in our study. A similar result was described by Montorsi and Mercadante [6], who showed that nocturia was the most common symptom (77%). The triad of nocturia-frequency-feeling of incomplete emptying (22.6%) was the most common sym ptom combination. A study performed by Hernandez et al. [13] in Spain also showed that nocturia was the most common symptom in male LUTS suggestive of BPH in patients more than 60 years of age. Nocturia, frequency, and incomplete emptying were also the most common symptoms found in the epidemiology of LUTS (EpiLUTS) study performed in the United States, the United Kingdom, and Sweden [14]. Both frequency and nocturia are crucial, especially in elderly, because these symptoms are associated with an increased risk of falls [6]. Nocturia is also correlated with a lower QoL, which is reflected by worsening quality of sleep, reduced energy levels, and increased bother and concern [13].

In this study, DRE, scoring system, renal function assessment, PSA level measurement, urinalysis, and ultrasound were not routinely done by GPs in men with LUTS suggestive of BPH. These results are similar to those of a study in several countries in Europe that showed that the IPSS questionna-

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ire only was used by 3.2% to 14.5% of GPs, except in Spain (57.1%). DRE only was performed by 20% of GPs in Italy; urinalysis by 34% of GPs in France [6]. Fourcade et al. [8,15] in two separate studies in Europe also showed that only a small number of GPs performed IPSS, DRE, and PSA measurement to diagnose male LUTS suggestive of BPH. According to current guidelines, minimum diagnostic workups of men with LUTS suggestive of BPH include evaluation of symptoms (IPSS questionnaire), DRE, frequency-volume chart, urinalysis, and PSA level measurement [9,10]. Our BPH management guidelines in Indonesia also recommend performing the IPSS questionnaire, DRE, frequency-volume chart, PSA level measurement, renal function assessment, and urinalysis to diagnose LUTS suggestive of BPH [12]. The D-IMPACT study showed that age, IPSS, and PSA level measurement were accurate for diagnosis with a positive predictive value of 75% and were easily implemented in any GP office [7]. One reason for the low use of the IPSS questionnaire was probably because it was considered to be impractical and too time consuming, especially in a busy primary care setting [16,17]. Renal function assessment and PSA level measurement were not routinely performed, probably because of cost and lack of a facility to perform it in the primary care setting. Assessment of PSA, renal function, and urinalysis are very important because abnormal renal function, high PSA suggestive of prostate cancer, and recurrent urinary tract infection are indications for referral of a male patient with LUTS suggestive of BPH to a urologist. A frequency-volume chart is also an important diagnostic tool to see and assess objectively the patient's symptoms. One limitation of our study is that we did not include a frequency-volume chart as one of the diagnostic options. The limited knowledge of GPs of the current guidelines is one possible explanation for this discrepancy.

Most GPs still referred BPH cases without prescribing an initial therapy. This may be because most patients presented with urinary retention. The GPs who prescribed an intial therapy usually put their patients on α-adrenergic antagonist monotherapy. On the other hand, combination therapy was less likely to be prescribed. A study of GPs in France showed an unsatisfactory outcome in half of medically treated male patients with LUTS suggestive of BPH, which suggested uneffective medical treatment by GPs. Most patients were treated with monotherapy, either α-adrenergic antagonists, 5-ARIs, or plant extracts (58.1%). Only 13% of patients were treated with combination therapies [15].

According to current guidelines, medical treatment of male LUTS suggestive of BPH can be prescribed by GPs. However, most GPs were likely not confident in prescribing drugs for these patients. Alpha-adrenergic antagonists are the first-line treatment of LUTS [9,10,12]. The combination of an α-adrenergic antagonist and 5-ARI is effective for BPH treatment, which was suggested by the Medical Therapy of Prostatic Symptoms (MTOPS) study (finasteride-doxazosin) and the Combination of Avodart and Tamsulosin (CombAT) study (dutasteride-tamsulosin) [18,19]. This combination therapy is suggested for BPH patients with a high prostate volume. Transabdominal ultrasonography can be performed to estimate prostate volume when transrectal ultrasonography is not available. In this study, only 17% of GPs performed abdominal ultrasound. The difficulty in estimating prostate volume by using DRE and the lack of ultrasound machines in the primary care setting with which to measure prostate volume are possible explanations for the low rate of prescription of combination therapy by GPs. These obstacles should be taken into consideration when formulating and introducing new guidelines in the future.

DRE and evaluation of side effects of the drugs prescribed were commonly performed at follow-up, which usually took place 2 weeks after treatment. This short time to follow-up is one discrepancy between the GPs' management of LUTS and the available guidelines. On the basis of both the European Association of Urology and the Indonesian guidelines, watchful waiting patients should be followed up at 6 months and patients with medical treatments at 4 to 6 weeks [9,12]. The GPs' low awareness of the available guidelines is a possible explanation for this finding. Dizzinesss and orthostatic hypotension were the most common α-adrenergic antagonist-related side effects found in our study. Orthostatic hypotension is one of the main side effects of α-adrenergic antagonists because it increases the risk of falls [6]. The cardiovascular effect of α-adrenergic antagonists prescribed for male LUTS suggestive of BPH should also raise caution because there is an association between LUTS and metabolic syndrome and vascular risk factors [7,8,20].

We found that the most common referral criteria were recurrent urinary retention and presence of complications. These referral criteria are concurrent with current guidelines [9,10,12,21]. We also found that 38% of GPs still referred all suggestive BPH cases. This may be explained by the high number of cases with urinary retention in our study, whom GPs were still not confident in treating.

We can conclude that the findings of our study were not due to recruitment of a particular subgroup of GPs such as young or inexperienced GPs, because most of the participants had worked for more than 1 year. One limitation of this study was that we did not define the exact numbers of GPs who had

worked for more than 5 years. Therefore, we cannot exclude the extreme group that may not pay attention to guidelines for male LUTS suggestive of BPH. Another limitation of our study was that GPs cannot make a definite diagnosis of the cause of LUTS. Male LUTS can be caused by other diseases such as overactive bladder. For a definite diagnosis of BPH, a histopathology examination is needed.

Our study describes the management pattern of male LUTS suggestive of BPH by GPs and shows that the pattern does not completely comply with available guidelines. This should encourage more efforts to improve the awareness of GPs of the guidelines. The facilities available in primary care settings should also be a consideration when formulating revised guidelines. A clear description of the roles of GPs and urologists in the management of BPH should also be included.

In conclusion, our study provided evidence that the management of male LUTS suggestive of BPH by GPs in Jakarta in part complied with current guidelines in terms of diagnostic and initial therapy. However, several aspects of the guidelines, such as PSA level measurement, renal function assessment, urinalysis, ultrasound, and prescription of combination therapies, were still infrequently performed. The follow-up period was also shorter than advised. GPs should be introduced to and reminded of the management guidelines for male LUTS suggestive of BPH.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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