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Original Article

Diagnosis and treatment patterns of male lower urinary tract symptoms suggestive of benign prostatic hyperplasia in Murjani General Hospital, Central Kalimantan, Indonesia

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ABSTRACT

Background: The aim of this study was to describe the diagnosis and treatment patterns of male lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) and evaluate their appropriateness in an area without an urologist and with limited resources, such as the area covered by Murjani General Hospital, Sampit, Indonesia.

Methods: This descriptive study used data collected from medical records of patients who were diagnosed with LUTS suggestive of BPH in Murjani General Hospital between September 2013 and August 2015.

Results: There were 89 patients. Their mean age was 64.5 years. The most common chief complaint was inability to void (59.6%), followed by frequency (10.1%). Diagnostic evaluations such as symptom scoring (1.1%), frequency–volume chart (0%), digital rectal examination (3.4%), urinalysis (5.6%), and prostate-specific antigen (0%) were used rarely or never, while renal function assessment (37.1%) and imaging of the prostate (68.5%) and upper urinary tract (65.2%) were used more often. Overall, the treatment that was administered most often was indwelling catheterization (25.8%); only 19.1% visited a urologist following a referral by the physician, although 41.6% were referred to a urologist. There were 40.4% of patients with an indication for surgery, mostly in the form of recurrent or refractory urinary retention (83.3%). In this group of patients, only 38.9% received appropriate treatment in the form of open prostatectomy by a general surgeon (16.7%) or were referred to a urologist (22.2%), while 50% of them were managed with chronic indwelling catheterization.

Conclusion: All patients received substandard diagnostic evaluations, with a pattern of preference toward imaging studies over more basic examinations for LUTS–BPH. The high frequency of indwelling catheterization in overall and inappropriate treatment in the group of patients with an indication for surgery showed that patients received suboptimal treatment. Improvements in various aspects are required to optimize the management of LUTS suggestive of BPH in Murjani General Hospital.

1. Introduction

Lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) is a common and bothersome condition in aging men.[1] The prevalence of moderate to severe LUTS in men ranges from 16.2% to 25.1%,[1,2] while the prevalence of LUTS described at least 'sometimes' and at least 'often' is 72.3% and 47.9%, respectively.[3] This prevalence increases with age,[1,2] and the quality of life has reduced significantly among those with LUTS.[1] Although the etiology of male LUTS is multifactorial, one of the most common causes of LUTS in older men is BPH, which induces benign prostatic enlargement and benign prostatic obstruction.[4] As the aging population in Indonesia is growing, with the elderly population constituting 8.03% of the total population in 2014 and showing an increasing trend,[5] one can expect an increase in the number of men with LUTS suggestive of BPH here.

Management of men with LUTS suggestive of BPH by urologists and general practitioners in Indonesia has in part referred to current guidelines.[6,7] Unfortunately, as a developing country, healthcare resources in Indonesia are not distributed evenly. Urologists

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are concentrated in Java Island, and outside Java Island they are mostly located in province capitals. Owing to that, management patterns of male LUTS suggestive of BPH in areas without urologist(s) and with limited healthcare resources, such as East Kotawaringin Regency that is covered by Murjani General Hospital, Sampit, Indonesia cannot be represented by those studies.

The general objectives of this study were to evaluate the diagnosis and treatment patterns of male LUTS suggestive of BPH in Murjani General Hospital, and compared the results with available guidelines to assess its appropriateness.

2. Materials and methods

This descriptive study used data retrospectively from medical records of patients of Murjani General Hospital, during the 2-year period from September 2013 to August 2015. Patients who were diagnosed with male LUTS suggestive of BPH by a general practitioner or a general surgeon and confirmed by a general surgeon were included in this study. The exclusion criteria were as follows: (1) patients who were diagnosed with LUTS caused by conditions other than BPH during follow-ups; (2) patients who had already undergone prostate, bladder, or urethral surgery before the time of diagnosis; and (3) patients who had already been treated for LUTS/BPH by a urologist before the diagnosis.

The data collected included patients' age, health insurance, chief complaint, performed or measured diagnostic evaluation, comorbid conditions, surgical history, indication for surgery, treatment received, and treatment outcome.

3. Results

3.1. Sample characteristics

A total of 89 patients were included in this study. Patient characteristics are shown in Table 1.

3.2. Diagnosis pattern

The chief complaints were inability to void (59.6%), frequency (10.1%), intermittency (7.9%), straining (7.9%), incomplete emptying (5.6%), nocturia (3.4%), and others (5.5%).

The performed or measured diagnostic evaluations were as follows: symptom scoring using the International Prostate Symptom Score (IPSS) in 1.1%, frequency–volume charts (FVC) in 0%, digital rectal examination (DRE) in 3.4%, urinalysis in 5.6%, prostate-specific antigen (PSA) in 0%, renal function assessment in 37.1%, imaging of the upper urinary tract in 65.2%, and imaging of the prostate in 68.5%. No patients received the standard diagnostic evaluation according to available LUTS/BPH guidelines.

Table 1
Patients' characteristics

Variables	Value
Mean age (y)	64.5 (40–88)
Age distribution	
40–49	4.5
50–59	25.8
60–69	34.8
70–79	29.2
80–89	5.6
Type of health insurance	
No insurance	43.8
National health insurance	45.0
District health insurance	11.2

Data are presented as *n* (%).

The comorbid conditions found were hypertension (23.6%), dyslipidemia (5.6%), heart disease (2.2%), Type 2 diabetes mellitus (2.2%), gout (2.2%), asthma (1.1%), and nonhemorrhagic stroke (1.1%). The surgical histories found were inguinal hernia repair (3.4%), appendectomy (1.1%), and cholecystectomy (1.1%).

Of the patients, 40.4% had an indication for surgery. The indications were recurrent or refractory urinary retention (83.3%), bladder stones (8.3%), renal insufficiency (5.6%), and dilatation of the upper urinary tract (2.8%). For the remaining patients, it could not be determined whether they had any indication for surgery or not because of the lack of diagnostic evaluations.

3.3. Treatment pattern

Overall, the patients were treated with watchful waiting (21.3%), received medical treatment (21.3%), received surgical treatment in the form of open prostatectomy (OP) by a general surgeon (12.4%), were referred to a urologist (19.1%), and underwent indwelling catheterization (25.8%); in patients with an indication for surgery, with the same treatment option, the rates were 2.8%, 8.3%, 16.7%, 22.2%, and 50%, respectively.

In all, 37 patients (41.6%) were referred to a urologist by the general surgeon. The factors that led to the referral were the presence of an indication for surgery (62.2%), age > 70 years (59.5%), and the presence of comorbid conditions that increased surgical risk (48.6%). Fourteen patients (37.9%) visited a urologist following the referral, while the rest refused and chose to be treated with watchful waiting (5.4%), medical treatment (10.8%), surgical treatment (10.8%), and indwelling catheterization (35.1%). Three patients requested for a urologist referral without being advised by the general surgeon.

3.4. Treatment outcome

The outcomes in the watchful waiting groups were improvement (5.3%), unchanged (31.6%), deterioration (21.0%), and loss to follow-up (42.1%). In the same order, the outcomes in the medical treatment group were 42.1%, 26.3%, 10.5%, and 21.1%, respectively, and those in the indwelling catheterization group were 21.8%, 30.4%, 13.0%, and 34.8%, respectively. In the surgical treatment group, 90.9% reported improvement and 9.1% (1 sample) died in the postoperative period. In the referred group, 23.5% reported improvement and 76.5% were lost to follow-up. Those who reported improvement in the referred group were all treated with transurethral resection of the prostate by the urologist.

4. Discussion

Age distribution was represented by a bell-shaped curve, with the peak in the 60–69-year-old group. It matched with the life expectancy in East Kotawaringin, which was 69.56 years.[8,9] The usual linear progression of prevalence with aging[1,2] could not be demonstrated because of the small sample size, which prevented these data from representing the true age distribution or prevalence in the population.

The most common chief complaint was inability to void (59.6%). Its rate was similar to that reported in studies in Indonesia (55.5%)[6] and Bahrain (42.95%)[10]; however, it was not a common complaint in Europe (6.8%).[11] This may be caused by the difference in healthcare-seeking behavior of people of East Kotawaringin and those of developed countries. Andersen[12] suggested that three categories of factors determine how and whether individuals use medical services, which were predisposing factors (e.g., health beliefs, attitudes, and education), enabling factors (e.g., income, health insurance, geographic proximity, and clinic waiting times), and need