Admission Profile of Patients with Lower Urinary Tract Symptoms

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Received: 11.11.2014
Accepted: 30.11.2014
Med Con December 2014 Vol 9, No 4, 13-18

Abstract

Introduction: The International Continence Society proposed the term “lower urinary tract symptoms LUTS” for describing manifestations associated with filling and voiding of the urinary bladder. These are grouped in storage LUTS (frequency, urgency, etc.), voiding LUTS (dysuria, weak urinary flow, etc.) and postmicturitional symptoms. Currently, the guidelines of the European Association of Urology (EAU) recognize that LUTS in men may have different etiologies and may be associated with prostate (LUTS / BPH), urinary bladder (overactive bladder syndrome (OAB)) or kidneys (nocturia due to nocturnal polyuria). We aimed to evaluate these profiles among patients in Cluj county in order to approach an adequate therapy.

Materials and methods: We carried out a descriptive epidemiologic study on a group of 341 men with at least one lower urinary tract symptom (dysuria, polyuria, urgency, nocturia) addressing to the Urology outpatient department of the Cluj-Napoca Municipal Hospital during August 2011-June 2013. Using subsets of questions from the IPSS (International Prostatic Symptoms Score), we identified subpopulations of patients with predominantly obstructive, irritative or combined symptoms.

Results: A predominance of high IPSS irritative scores was found with patients over the age of 50, without the difference being statistically significant. Our study found a percentage of 56.13% [49.06; 62.73] subjects with two or more nocturia episodes, who found this symptom to be bothersome. Our results regarding the irritative profile showed that the age group of 60-70 years had the highest score values. Marginal age groups showed similar patterns. Patients with non-obstructive LUTS (predominantly irritative or combined) had a much higher Qmax than those in the obstructive subgroup, a value which was found to be statistically significant (p<0.05). Quality of life in the non-obstructive population was found to be much lower.

Conclusions: The importance of recognizing LUTS derives from the impact this clinical profile has on quality of life and adequate therapeutic strategies. Subsequently, clinical guidelines for a diagnostic and therapeutic approach based on patient profile are required.

Keywords: nocturia, storage, voiding, lower urinary tract symptoms

Introduction

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postmicturitional residue was noted and the International symptoms, nocturia) data were collected, presence of the past 4 weeks.

neurologic disease) or any specific LUTS treatment in strictures of the urethra, major pelvic surgery, and tract infection, urinary stones, prostatic carcinoma, associated pathology that interferes with LUTS (urinary the diagnostic protocol. Exclusion criteria consisted of:

40 years, lower urinary tract symptoms, acceptance of and June 2013.

Cluj-Napoca Municipal Hospital during August 2011 addressing to the Urology outpatient department of the symptom (dysuria, polyuria, urgency, nocturia)

a group of 341 men with at least one lower urinary tract and geographical factors) of LUTS justifies the evaluation of these patients' profile and their quality of life. The aim of our study was to evaluate this profile among patients in Cluj County in order to approach an efficient management in daily urological practice [7].

The intricate etiology (including socio-economical and geographical factors) of LUTS justifies the increased life expectancy, these clinical findings become more common and have a growing impact on medical care. Recognizing these symptoms in men and the impact they have on quality of life is fundamental for their efficient management in daily urological practice [7].

Lower tract complaints are common in men over the age of 50, prevalence and severity growing with age. Symptoms frequently occur in combination, increasing discomfort [6]. Taking into consideration the increased life expectancy, these clinical findings become more common and have a growing impact on medical care. Recognizing these symptoms in men and the impact they have on quality of life is fundamental for their efficient management in daily urological practice [7].

The intricate etiology (including socio-economical and geographical factors) of LUTS justifies the evaluation of these patients’ profile and their quality of life. The aim of our study was to evaluate this profile among patients in Cluj County in order to approach an adequate therapy taking into consideration the individual patients’ needs.

Materials and methods

We carried out a descriptive epidemiologic study on a group of 341 men with at least one lower urinary tract symptom (dysuria, polyuria, urgency, nocturia) addressing to the Urology outpatient department of the Cluj-Napoca Municipal Hospital during August 2011 and June 2013. The following inclusion criteria were used: age over 40 years, lower urinary tract symptoms, acceptance of the diagnostic protocol. Exclusion criteria consisted of: associated pathology that interferes with LUTS (urinary tract infection, urinary stones, prostatic carcinoma, strictures of the urethra, major pelvic surgery, and neurologic disease) or any specific LUTS treatment in the past 4 weeks.

Demographic (age, sex) and clinical (type of irritative symptoms, nocturia) data were collected, presence of postmicturitional residue was noted and the International Prostatic Symptoms Score-IPSS was calculated. We measured maximum urinary flow (Qmax) by means of uroflowmetry and a urine exam was carried out.

Using subsets of questions from the IPSS, we identified subpopulations of patients with predominantly obstructive, irritative or combined symptoms. We assigned an obstructive score by adding the values from questions 1, 3, 5, and 6 (maximum value of 20) and an irritative score by adding the values from questions 2 and 4 (maximum value 10). Based on results, we grouped the patients as having obstructive disease (obstructive score >10, irritative score <5), irritative disease (obstructive score <10, irritative score >5 and combined disease (obstructive score >10, irritative score >5). We objectified the number of nocturnal urinations according to answers obtained at question 7 from the IPSS. Quality of life was also assessed according to the IPSS questions.

Statistical analysis

The summary of qualitative variables was done using absolute frequency and relative frequency associated with the 95% confidence interval computed using an optimized method similar to those presented in [8,9].

Quantitative variables were summarized as mean and standard whenever the normality was proved; otherwise the median and interquartile range was used (Q1 = 25th percentile; Q3 = 75th percentile). The comparisons between two groups were conducted using Z test for proportions whenever variables were qualitative and Student t test for independent samples when data proved normal distributed or Mann-Whithey test when data proved not normal distributed. Kruskal-Wallis test was used to compare more than two groups on quantitative variables that proved not normal distributed.

Statistical analysis was conducted with Statistical software (v. 8) at a significance level of 5%. The p-value less than 0.05 was considered statistically significant whenever two groups were compared while a p-value less than 0.0167 was considered significant whenever three groups were compared.

Results

301 consecutive patients complying with the inclusion criteria, of the 341 patients presenting to our department with LUTS, were enrolled in the study. The age ranged between 44-93 years (mean 68.18±9.69). Patient age distribution is represented in Figure 1.

An increase in IPSS score is apparent for the age group 50-60 years, even though this pattern does not follow through with further age groups (Figure 2). No
A statistically significant difference was found throughout the age groups (Kruskal-Wallis stat. = 5.179, p = 0.2694).

Patient distribution according to predominant symptom type upon admission (LUTS subpopulations: obstructive, irritative, combined) is presented in Figure 3.

119 patients (56.13% [49.06; 62.73], Figure 4) had more than two nocturnal urinations, a percentage significantly higher than patients with less than two episodes (Z = 3.5888, p = 0.0003). Most frequently, patients had 2 nocturnal episodes (26.89% [21.23; 33.49]).

Medium Qmax was significantly lower in subjects with pure obstructive symptoms compared with those without pure obstructive symptoms (p = 0.006, Table I) while medium Qmax proved significantly higher in subjects with mix symptoms compared to those without mix symptoms (p = 0.005, Table I).

<table>
<thead>
<tr>
<th></th>
<th>Pure obstructive</th>
<th>Pure irritative</th>
<th>Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>n+ (ninvalid)</td>
<td>183 (83)</td>
<td>18 (3)</td>
<td>80 (41)</td>
</tr>
<tr>
<td>Mediantd (Q1; Q3)</td>
<td>8 (7; 10)</td>
<td>6.5 (6; 12.5)</td>
<td>12 (7; 15)</td>
</tr>
<tr>
<td>n- (ninvalid)</td>
<td>116 (49)</td>
<td>281 (130)</td>
<td>219 (92)</td>
</tr>
<tr>
<td>Mediantdu (Q1; Q3)</td>
<td>12 (7; 15)</td>
<td>9 (7; 12)</td>
<td>8 (7; 11)</td>
</tr>
<tr>
<td>Z stat* (p-value)</td>
<td>-2.736 (0.006)</td>
<td>-0.093 (0.937)</td>
<td>-2.835 (0.005)</td>
</tr>
</tbody>
</table>
A higher number of patients in the age group 50-60 years had predominantly irritative symptoms (Figure 5). The percentage of patients with low quality of life proved significantly higher in the irritative complaints group (Z-statistics=3.3775, p=0.0007) (Figure 6).

**Discussion**

A predominance of high IPSS irritative scores was found with patients over the age of 50, without the difference being statistically significant (even though prostatic volume increases with age) [10]. This comes to support the theory that LUTS are not entirely related to prostatic pathology [11]. It is necessary to know the LUTS profile in order to prescribe the correct therapy for patient subgroups.

Patient age among the subjects admitted to our service ranged between 44 and 93 (mean 68.18±9.69). Most patients were in the 60-70 age group, in concordance with the life expectancy in our country (70.5 years for males).

Medical references quote a percentage of 70% patients with nocturnal urinations [12]. Our study found a percentage of 56.13% [49.06; 62.73] subjects with two or more nocturnal episodes, who found this symptom to be bothersome. This only comes to show our lack of training in analyzing LUTS profiles.

Our results regarding the irritative profile showed that the age group of 60-70 years had the highest score values. Marginal age groups showed similar patterns. Although it was assumed that the IPSS was strongly linked to prostatic volume, which increases with age, it has currently been proven that this parameter does not significantly influence prostatic symptoms (IPSS) [13,14].

Patients with non-obstructive LUTS (predominantly irritative or combined) had a much higher Qmax than those in the obstructive subgroup, a value which was found to be statistically significant (p<0.05). Quality of life in the non-obstructive population was found to be much lower [15].

**Conclusions**

The importance of recognizing LUTS derives from the impact this clinical profile has on quality of life and adequate therapeutic strategies.

Qmax values were significantly higher amongst non-obstructive LUTS patients. There is a further need to investigate the utility of uroflowmetry studies in patients with predominantly irritative symptoms.

Quality of life is decreased in the subgroup of patients with irritative or combined profiles. Subsequently, clinical guidelines for a diagnostic and therapeutic approach based on patient’s profile are required.

**Disclosure Statement:** No competing financial interests exist.

**References**


