available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Guidelines

Editorial by Jean-Nicolas Cornu and Bertrand Lukacs on pp. 1110–1111 of this issue

EAU Guidelines on the Assessment of Non-neurogenic Male Lower Urinary Tract Symptoms including Benign Prostatic Obstruction

Christian Gratzke [a], ***Alexander Bachmann*** [b], ***Aurelien Descazeaud*** [c], ***Marcus J. Drake*** [d], ***Stephan Madersbacher*** [e], ***Charalampos Mamoulakis*** [f], ***Matthias Oelke*** [g], ***Kari A.O. Tikkinen*** [h], ***Stavros Gravas*** [i,*]

[a] *Department of Urology, Urologische Klinik und Poliklinik, Klinikum der Universität München-Grosshadern, Munich, Germany;* [b] *Department of Urology, University Hospital Basel, Basel, Switzerland;* [c] *Department of Urology, Dupuytren Hospital, University of Limoges, Limoges, France;* [d] *Bristol Urological Institute and School of Clinical Sciences, University of Bristol, Bristol, UK;* [e] *Department of Urology and Andrology, Kaiser-Franz-Josef Spital, Vienna, Austria;* [f] *Department of Urology, University General Hospital of Heraklion, University of Crete Medical School, Heraklion, Crete, Greece;* [g] *Department of Urology, Hannover Medical School, Hannover, Germany;* [h] *Departments of Urology and Public Health, Helsinki University Central Hospital and University of Helsinki, Helsinki, Finland;* [i] *Department of Urology, University of Thessaly, Larissa, Greece*

Article info

Article history:
Accepted December 26, 2014

Keywords:
Clinical practice guidelines
Diagnosis
Lower urinary tract symptoms
Bladder outlet obstruction
Benign prostatic hyperplasia
Detrusor overactivity
Overactive bladder
Nocturia
Nocturnal polyuria

EU ✱ ACME
www.eu-acme.org/europeanurology

Please visit www.eu-acme.org/europeanurology to read and answer questions on-line. The EU-ACME credits will then be attributed automatically.

Abstract

Context: Lower urinary tract symptoms (LUTS) represent one of the most common clinical complaints in adult men and have multifactorial aetiology.
Objective: To develop European Association of Urology (EAU) guidelines on the assessment of men with non-neurogenic LUTS.
Evidence acquisition: A structured literature search on the assessment of non-neurogenic male LUTS was conducted. Articles with the highest available level of evidence were selected. The Delphi technique consensus approach was used to develop the recommendations.
Evidence synthesis: As a routine part of the initial assessment of male LUTS, a medical history must be taken, a validated symptom score questionnaire with quality-of-life question(s) should be completed, a physical examination including digital rectal examination should be performed, urinalysis must be ordered, post-void residual urine (PVR) should be measured, and uroflowmetry may be performed. Micturition frequency-volume charts or bladder diaries should be used to assess male LUTS with a prominent storage component or nocturia. Prostate-specific antigen (PSA) should be measured only if a diagnosis of prostate cancer will change the management or if PSA can assist in decision-making for patients at risk of symptom progression and complications. Renal function must be assessed if renal impairment is suspected from the history and clinical examination, if the patient has hydronephrosis, or when considering surgical treatment for male LUTS. Uroflowmetry should be performed before any treatment. Imaging of the upper urinary tract in men with LUTS should be performed in patients with large PVR, haematuria, or a history of urolithiasis. Imaging of the prostate should be performed if this assists in choosing the appropriate drug and when considering surgical treatment. Urethrocystoscopy should only be performed in men with LUTS to exclude suspected bladder or urethral pathology and/or before minimally invasive/surgical therapies if the findings may change treatment. Pressure-flow studies should be performed only in individual patients for specific indications before surgery or when evaluation of the pathophysiology underlying LUTS is warranted.

* Corresponding author. Department of Urology, University of Thessaly, Feidiou 6–8, Larissa 41221, Greece. Tel. +30 69 44626086; Fax: +30 24 13501900.
E-mail address: sgravas2002@yahoo.com (S. Gravas).

http://dx.doi.org/10.1016/j.eururo.2014.12.038

CrossMark

Conclusions: These guidelines provide evidence-based practical guidance for assessment of non-neurogenic male LUTS. An extended version is available online (www.uroweb.org/guidelines).

Patient summary: This article presents a short version of European Association of Urology guidelines for non-neurogenic male lower urinary tract symptoms (LUTS). The recommended tests should be able to distinguish between uncomplicated male LUTS and possible differential diagnoses and to evaluate baseline parameters for treatment. The guidelines also define the clinical profile of patients to provide the best evidence-based care. An algorithm was developed to guide physicians in using appropriate diagnostic tests.

1. Introduction

Lower urinary tract symptoms (LUTS) represent one of the most common clinical complaints in adult men [1]. The prevalence of LUTS increases with age, and estimates vary widely depending on definitions and cohorts studied [1,2]. LUTS have a major impact on health-related quality of life (QoL) [2] and are associated with substantial personal and societal costs [3].

LUTS can be divided into storage, voiding, and post-micturition symptoms, and have traditionally been related to bladder outlet obstruction (BOO) as a result of benign prostatic obstruction (BPO), which is often caused by benign prostatic enlargement (BPE) resulting from the histologic condition benign prostatic hyperplasia (BPH) [4]. Several recent studies have shown, however, that LUTS are not necessarily related to pathologies of the prostate. For instance, various types of bladder dysfunction may also be involved in the pathogenesis of LUTS, which is sometimes urodynamically manifest as detrusor overactivity (during the storage phase) or underactivity (during the voiding phase). In addition, many other conditions, both urological and nonurological, may also contribute to LUTS (Fig. 1).

1.1. Scope and purpose of the guidelines

Owing to the high prevalence of LUTS and the underlying multifactorial pathophysiology, accurate assessment of male LUTS is crucial to establish a differential diagnosis among possible causes and to define the clinical profile of men with LUTS to provide the best evidence-based care (overall objectives). The assessment should be able to identify patients for whom watchful waiting (WW) or medical or surgical treatment can be recommended, as well as men at risk of disease progression, and to assess patients' values and preferences. The guidelines aim to answer the clinical question as to which tests are recommended in the assessment of non-neurogenic LUTS in men aged ≥40 yr and when these tests should be performed.

2. Evidence acquisition

The recommendations in these guidelines are based on a structured literature search for articles published in English according to the PubMed/Medline, Web of Science, and Cochrane databases between 1966 and October 1, 2013, including the search terms "lower urinary tract symptoms", "benign prostatic hyperplasia", "detrusor overactivity", "overactive bladder", "nocturia", and "nocturnal polyuria" in combination with the prespecified diagnostic tests and the search limits "humans", "adult men", "review", "randomised clinical trials", "clinical trials", and "meta-analysis". Each extracted article was separately analysed, classified, and labelled with a level of evidence (LE) according to a classification system modified from the Oxford Centre for Evidence-based Medicine, ranging from systematic reviews of randomised trials (LE 1a, highest evidence level) to expert opinion (LE 4, lowest evidence level) (modified from [5]).

The working panel used the Delphi technique consensus approach, which is based on the rationale that decisions captured systematically from a structured group of individuals (the working panel) are more valid than those from unstructured groups. When published information is scarce, experts can make inferences using other data from

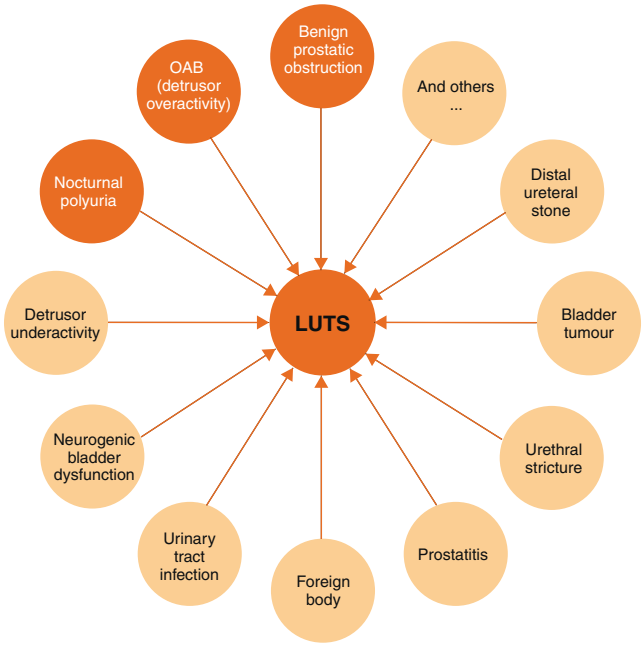

Fig. 1 – Causes of male lower urinary tract symptoms (LUTS). OAB = overactive bladder.