76

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KOREAN CLINICAL PRACTICE GUIDELINE FOR BENIGN PROSTATIC HYPERPLASIA

Hypothesis / aims of study
The Korean urological association (KUA) organized the benign prostatic hyperplasia (BPH) guideline developing committee composed of experts in the field of BPH with the Korean Academy of Family Medicine (KAFM) and the Korean Continence Society (KCS) to develop Korean clinical practice guidelines (CPG) for BPH. The purpose to develop Korean CPG for BPH is to provide current and comprehensive recommendations for the evaluation, medical and surgical treatment of BPH.

Study design, materials and methods
The committee comprised of 17 members appointed by KUA, KCS and KFMS determined to develop CPG with mainly adapting from existing guidelines and partially using de novo method. The clinical practice guideline development committee consulted to experts for the search of data and meta-analysis. The committee determined 13 key questions that were required for diagnosis and treatment of BPH under the principle of PICO (population, intervention, comparison and outcome). A comprehensive literature review was carried out primarily from 2009 to 2013 using medical search engines including data from Korea. Twelve committee members evaluated the quality of the selected guidelines for adaptation with K-AGREE II (the Korean Appraisal of Guidelines for Research & Evaluation II). The Delphi method was used to make consensus for recommendations through three rounds. A peer-review for the recommendations selected by consensus was done by review committee with an independent process.

Results
Based on the published evidence, recommendations were synthesized, and the level of evidence of the recommendation was determined. A draft guideline was reviewed by expert peer reviewers and also discussed at an expert consensus meeting until final agreement was achieved. We held two times outside public hearings to collect opinions about our guideline. This guideline was certified by the KUA, KAFM and KCS and obtained the certification mark of excellence from the Clinical Practice Guideline Evaluation System of the KAMS (Korean Academy of Medical Science). Table 1 shows the summary of recommendations for Korean BPH guideline.

Interpretation of results
This guideline was the first BPH guideline that was certified by the KUA, KAFM and KCS and obtained the certification mark of excellence from the Clinical Practice Guideline Evaluation System of the KAMS (Korean Academy of Medical Science) with multi-disciplinary research in Korea.

Concluding message
This evidence-based guideline for BPH provides recommendations to primary practitioners and urologist for the diagnosis and treatment of men older than 40 years old with BPH in Korea.

Table 1. The summary of recommendations.

Recommendation	Level of recommendation	Level of evidence
1. Is the IPSS questionnaire more helpful than a simple medical history for diagnosis during initial assessment in BPH patients?		
1-1. The IPSS is recommended for an objective assessment of symptoms at initial contact, for follow-up of symptom evolution for those on watchful waiting, and for evaluation of response to treatment.	Strong	B
2. Is a voiding diary more helpful than a simple medical history to diagnose BPH patients?		
2-1. A voiding diary is helpful for clarifying the information obtained from history taking and for accurate diagnosis.	Strong	B
3. Do uroflowmetry and measurement of PVR volume have advantages in the establishment of treatment strategy in BPH patients?		
3-1. Uroflowmetry can be conducted selectively in patients with lower urinary tract symptoms.	Strong	C
3-2. Measurement of PVR volume can be conducted selectively in patients with lower urinary tract symptoms.	Strong	C
3-3. Uroflowmetry and measurement of PVR volume can be conducted in patients with lower urinary tract symptoms and in those who need the specific evaluation of urologists.	Strong	B
4. Does TRUS have a better role than DRE for the measurement of prostatic anatomy in BPH patients?		
4-1. For precise evaluation of prostatic anatomy, besides DRE, TRUS is warranted.	Strong	B
5. Should PSA be measured in BPH patients?		
5-1. PSA should be measured in patients aged 40 years or older with LUTS.	Strong	A
6. Does lifestyle modification have an advantage to improve symptoms in BPH patients?		
6-1. Watchful waiting is preferred for men with mild LUTS symptoms.	Strong	B
6-2. Men with LUTS should be advised about lifestyle modification before and during treatment.	Strong	B
7. Should medical treatment be considered first as the primary treatment ahead of surgical treatment in BPH patients?		
7-1. Medication therapy is recommended as a primary treatment in patients with moderate or severe symptoms. But surgical intervention is an appropriate treatment as an alternative for patients with moderate to severe LUTS and for patients who develop AUR or other BPH-related complications (bladder stone, bladder diverticulum, renal failure, hematuria).	Strong	B
7-2. 5-Alpha-reductase inhibitors should be offered to men with moderate to severe lower urinary tract symptoms and enlarged prostate volume by DRE/prostate ultrasound or elevated serum PSA as BPH progression.	Strong	A
7-3. Cholinergic receptor antagonists might be considered in men with moderate to severe lower urinary tract symptoms with predominant storage symptoms. However, caution is warranted for their use in men with bladder outlet obstruction.	Strong	A
7-4. Alpha 1-blockers should be offered to men with moderate to severe lower urinary tract symptoms.	Strong	A
8. Can combination therapy increase the treatment effect of alpha-blocker monotherapy in BPH patients?		
8-1. The combination therapy of 5α-reductase inhibitor and alpha-blocker is more effective treatment for improving lower urinary tract symptoms than alpha-blocker monotherapy in BPH patients.	Strong	A
8-2. The combination therapy of anticholinergics and alpha-blocker is performed when the effect of alpha-blocker monotherapy is insufficient in patients with moderate to severe lower urinary tract symptoms.	Strong	A
8-3. The combination therapy of anticholinergics and alpha blocker is carefully performed for men suspected of having bladder outlet obstruction and large postvoid urine volume.	Strong	A
8-4. The combination therapy of phosphodiesterase type 5 inhibitors and alpha-blocker is more effective than alpha-blocker monotherapy in reducing moderate to severe lower urinary tract symptoms.	Weak	A
9. Should TWOC be considered first before surgical treatment in BPH patients with AUR?		
9-1. TWOC should be considered first before surgical treatment in BPH patients with AUR.	Strong	A
9-2. Alpha-blockers are helpful for treatment of AUR before/after indwelling urethral catheter.	Strong	B
9-3. The optimal duration of urethral catheter indwelling is between 2 and 7 days after AUR.	Strong	B
10. Is TURP considered the primary surgical treatment option in BPH patients rather than open prostatectomy?		
10-1. TURP is considered the primary surgical treatment option in BPH patients.	Strong	C
10-2. Not only open prostatectomy but also endoscopic surgery is considered the primary treatment option, especially for prostate volume of 70 g or higher.	Strong	A

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