
Clinical Research

A survey on the management of overactive bladder by Indonesian urologists

Pande M.W. Tirtayasa, Harrina E. Rahardjo

Department of Surgery, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

ABSTRAK

Latar belakang: Overactive bladder (OAB) merupakan sindrom klinis yang digambarkan dengan gejala urgensi kompleks, dengan atau tanpa inkontinensia yang memiliki efek signifikan pada kualitas hidup dan harus ditangani secara tepat. Penelitian ini bertujuan mengulas penatalaksanaan OAB di Indonesia.

Metode: Kuesioner rancangan sendiri yang berisi pilihan diagnostik dan pengobatan OAB didistribusikan pada spesialis urologi Indonesia. Penelitian ini menggunakan desain potong lintang dan analisis data yang digunakan adalah analisis deskriptif.

Hasil: Sebanyak 129 spesialis urologi berpartisipasi dalam penelitian ini. Sebagian besar menemukan ≥ 20 kasus OAB per tahun dengan tipe paling sering OAB tanpa inkontinensia atau OAB kering (57,4%). Sebanyak 34,1% membutuhkan setidaknya tiga alat diagnostik untuk menilai OAB. Pemeriksaan terdiri dari bladder diary, urinalisis, dan sistem skoring. Sistem skoring yang paling sering digunakan adalah overactive bladder symptoms score (OABSS) 48,9%. Sebanyak 35,7% spesialis urologi menggunakan antimuskarinik dan terapi perilaku sebagai terapi lini pertama. Solifenacin 5 mg, satu kali sehari adalah jenis antimuskarinik paling sering diberikan (48,0%). Evaluasi saat pasien datang kontrol berupa keluhan (96,9%), bladder diary (72,9%), dan efek samping obat (58,1%). Ketika terapi lini pertama gagal, sebagian besar spesialis urologi (54,3%) memilih untuk meningkatkan dosis antimuskarinik. Tidak ada yang memilih injeksi botulinum toxin pada buli sebagai terapi tambahan.

Kesimpulan: OAB merupakan penyakit yang cukup sering dan masih menantang bagi spesialis urologi. Penatalaksanaan pasien OAB oleh spesialis urologi Indonesia sesuai dengan pedoman yang ada.

ABSTRACT

Background: Overactive bladder (OAB) is a clinical syndrome consisting of symptom complex of urgency, with or without incontinence which has significant effects on quality of life and has to be managed properly. The aim of this study was to review the management of OAB by Indonesian urologists.

Methods: A self-constructed questionnaires containing diagnostic and treatment options of OAB patients were distributed to Indonesian urologists. This was a cross-sectional study and descriptive analysis method was used to analyze the data.

Results: 129 Indonesian urologists participated in this study. Most of them faced more than 20 OAB cases per year with the most common type was OAB without incontinence or dry OAB (57.4%). Most urologists (34.1%) ordered at least three diagnostic tools to determine OAB. They were bladder diary, urinalysis and scoring system. The most used scoring system (48.9%) was the overactive bladder symptoms score (OABSS). Thirty-five point seven percents (35.7%) of urologists used antimuscarinic and behavioral therapy as initial therapy. Solifenacin 5 mg/day was the most common antimuscarinic prescribed as the first line therapy (48%). Most common items commonly evaluated for follow-up: symptoms (96.9%), bladder diary (72.9%); and drug's side effect (58.1%). When initial therapy had failed, most of the urologists (54.3%) chose to increase the dose of antimuscarinic. None of them chose bladder botulinum toxin injection as their additional therapy.

Conclusion: OAB is a frequent disorder which remains a challenge for urologists. The management of patients with OAB by Indonesian urologists has been suitable with the previous studies and guidelines.

Keywords: Indonesian urologist, management, overactive bladder

pISSN: 0853-1773 • eISSN: 2252-8083 • <http://dx.doi.org/10.13181/mji.v24i2.1172> • Med J Indones. 2015;24:91-6

• Received 07 Des 2014 • Accepted 28 Apr 2015

Correspondence author: **Pande M.W. Tirtayasa**, wisnu.tirtayasa@gmail.com

Overactive bladder (OAB) is defined as urinary urgency with or without incontinence, usually coincide with frequency and nocturia, without urinary tract infection or other abnormality.¹⁻⁴ OAB occurs in millions of people around the world. Its prevalence increases with age.⁵ However, many OAB patients are still underdiagnosed and undertreated. This is due to patients embarrassment to consult to their physician and the belief that this condition is related to the aging process. Belief of treatment unavailability might be another factor.⁵ OAB with incontinence is termed as wet OAB, while dry OAB patients do not complain about incontinence.⁶

According to epidemiological research from North America, the prevalence of OAB in women is 16.9%. It is increased to 30.9% in women above 65 year-old.¹ In European countries, 16.6% men and women above 40 year-old suffer from OAB.¹ A more recent study in Canada and several European countries showed that as many as 11.8% of men and women over 18 years old have a complaint suggestive of OAB.⁷ A study in Indonesia showed that 4.1% and 1.8% of people from children to elderly have wet OAB and dry OAB, respectively.⁸

Overactive bladder is a syndrome that is not life threatening, therefore, often ignored by patients and physicians. The effect of OAB in daily and quality of life is however very substantial.⁹ Geriatric women tend to suffer from wet OAB.¹⁰ A survey held by Department of Internal Medicine Cipto Mangunkusumo Hospital to 208 geriatric population in Jakarta found the incidence of wet OAB was 32.3%.¹¹

The aim of this study was to review the management of OAB by Indonesian urologists. The results of this study are very important in giving us an overview of how Indonesian urologists are treating OAB patients.

METHODS

The data was compiled from self-constructed questionnaires which were distributed to Indonesian urologists during Indonesian annual urology scientific meeting on 2012 in Jakarta. The questionnaire comprises of nine questions containing diagnostic and treatment options of OAB patients. The participants of the meeting

were 231 persons consisted of 144 urologists and 87 general practitioners. On that time, the member of Indonesian Urological Association was 241 persons. According to Health Research Ethics Committee, Faculty of Medicine Universitas Indonesia, Jakarta, this study did not require ethical approval.

RESULTS

One hundred and twenty nine Indonesian urologists participated in this study from total of 241 urologists in Indonesia. Most urologists worked in governmental and teaching hospital (38%), non-governmental and non-teaching hospital (34.9%), and governmental hospital (27.1%). The amount and type of OAB faced by Indonesian urologists are shown in table 1. Diagnostic tool(s) chosen by Indonesia urologists to diagnose OAB are described in table 2.

Most of Indonesia urologists (76%) used bladder diary to diagnose OAB, followed by scoring system (68.2%) and urinalysis examination

Table 1. Number of cases and type of OAB faced by Indonesian urologists

OAB cases managed by urologists per year (n=129)	Total (%)
Number of cases	
1 - 5	20 (15.5)
6 - 10	28 (21.7)
11 - 20	30 (23.3)
> 20	51 (39.5)
Type	
Wet OAB	41 (31.8)
Dry OAB	74 (57.4)
Mixed (incontinence OAB + stress urinary incontinence)	14 (10.8)

Table 2. Diagnostic tools to diagnose OAB

Diagnostic tools	Total (%)
Scoring system	88 (68.2)
Bladder diary	98 (76.0)
Urinalysis	85 (65.9)
Complete blood count	35 (27.1)
Uroflowmetry + post void residual	41 (31.8)
Urodynamic examination	24 (18.6)
Ultrasound	51 (39.5)

(65.9%). Most urologists (34.1%) ordered at least 3 diagnostic tools to determine OAB consisting of bladder diary, urinalysis, and scoring system.

Eighty-eight urologists (68.2%) used scoring system as one of diagnostic tools. The most used scoring system (48.9%) was the overactive bladder symptom score (OABSS), followed by international prostate symptom score (IPSS) (31.8%); combination of OABSS and IPSS (18.2%); and combination of overactive bladder-validated 8 (OAB-V8) and IPSS (1.1%).

In terms of OAB initial therapy, most of the urologists (45.7%) chose a combination therapy (behavior therapy, pelvic floor exercise and antimuscarinic) as their initial therapy to treat OAB. No one chose behavior therapy alone as their initial therapy.

The type of antimuscarinic prescribed by Indonesian urologists when they chose antimuscarinic as their therapy can be seen in table 4.

There were 127 urologists (98.5%) who chose antimuscarinic as their initial therapy to treat patients with OAB. Most of them (48%) prescribed solifenacin 5 miligrams once a day followed by

Table 3. Initial therapy chosen by urologists to treat OAB

Initial therapy	Total (%)
Antimuscarinic only	13 (10.1)
Behavior therapy + antimuscarinic	46 (35.7)
Pelvic floor exercise + antimuscarinic	9 (7.0)
Behavior therapy + pelvic floor exercise	2 (1.5)
Behavior therapy + pelvic floor exercise + antimuscarinic	59 (45.7)
Total	129 (100.0)

Table 4. Antimuscarinic prescribed as the first line therapy

Antimuscarinic	Total (%)
Solifenacin 5 mg, once a day	61 (48.0)
Tolterodine 2 mg, twice a day	14 (11.0)
Fesoterodine 4 mg, once a day	11 (8.7)
Combination of 2 antimuscarinic	25 (19.7)
Combination of 3 antimuscarinic	11 (8.7)
Combination of 4 antimuscarinic	2 (1.5)
Others	3 (2.4)
Total	127 (100.0)

combination of 2 antimuscarinic (19.7%) and fesoterodine 4 miligrams once a day (8.7%).

When patients with OAB came to the office for follow-up, severity of patients' symptoms whether they becoming better or worse were the most commonly evaluated (96.9%), followed by bladder diary (72.9%).

The types of next additional therapy when initial therapy had failed can be seen in table 6.

When the initial therapy had failed, most of the urologists (54.3%) chose to increasing the dose of antimuscarinic, followed by switch to another antimuscarinic (38%) and combine two types of antimuscarinic (34.1%). No body chose bladder botulinumtoxin injection as their additional therapy.

DISCUSSION

The symptoms of OAB have several causes and multifactorial. Mechanism of voiding involves the nervous system and anatomy of the lower urinary tract. Any abnormalities of these organs can be the cause of OAB. The symptoms are usually linked to involuntary bladder contractions.¹² When these

Table 5. Items being evaluated for follow-up

Items being evaluated	Total (%)
Symptoms	125 (96.9)
Bladder diary	94 (72.9)
Scoring system	54 (41.9)
Uroflowmetry + post void residual	31 (24.0)
Drug's side effect	75 (58.1)

Table 6. Additional therapy when initial therapy had failed

Next additional therapy	Total (%)
Increasing the dose of antimuscarinic	70 (54.3)
Switch to another antimuscarinic	49 (38.0)
Combine two types of antimuscarinic	44 (34.1)
Urodynamic evaluation	43 (33.3)
Tibial nerve stimulation	1 (0.8)
Surgery (e.c. bladder augmentation)	3 (2.3)
Referred to another speciality	3 (2.3)

symptoms occur without any other abnormality of the urinary tract and bothersome to the patient, then diagnoses of OAB can be made.^{2,3}

Treatment of OAB requires a proper and good diagnostic evaluation. A careful history taking of the genitourinary disorders and other diseases should be obtained from each patient. The physician should perform diagnostic steps to diagnose OAB and exclude other diseases. Beside proper history taking, a good physical examination and laboratory examination i.e. urinalysis are also important.² Abdomen, genitourinary, and rectal examination as well as assessment of the lower extremities are pivotal for diagnosis.^{2,3,12} Urinalysis is useful to exclude hematuria, leukosuria and glucose in the urine.^{2,3,12}

Some additional investigations are needed to establish diagnosis, design a proper treatment and exclude other diseases. Based on clinical judgement, post-void residual urine and urine culture may be obtained. Bladder diary and symptom questionnaires are tools to aid the physicians in assessing complaints more objectively.^{2,3} In uncomplicated patients, invasive examination such as urodynamics, cystoscopy and ultrasound of kidney and bladder are not recommended as the initial management.² This study showed that most of Indonesian urologists ordered bladder diary, urinalysis examination, and scoring system as their procedures to determine OAB. This finding was similar and suitable with previous studies and guidelines.^{2,10,13}

International prostate symptom score (IPSS) is a symptom score used for benign prostatic obstruction (BPO).¹⁴ It includes 7 questions on storage and voiding symptoms.¹⁴ OABSS was first developed by Homma, et al¹⁵ using the Japanese language. It was then validated among Japanese patients and has been accepted in several countries.¹⁵⁻¹⁸ OABSS is a self administered questionnaire based on questions on symptoms of OAB: urgency, incontinence, frequency, and nocturia.¹⁵ Another questionnaire, called OAB-V8 was invented by Coyne, et al.¹⁹ This questionnaire contains 8 items of questions related to both of the symptoms of OAB (frequency, urgency, nocturia, and incontinence).¹⁴ OAB-V8 has been widely use and translated into many

languages.²⁰ Indonesian urologists use these three different scoring systems. Most of them use OABSS and IPSS as their scoring systems to determine patients with OAB.

Successful OAB treatment relies on proper evaluation and follow-up. The etiology of OAB is multifactorial thus lifestyle and behavioral modification, physical therapy and pharmacological treatment are mandatory. Behavioral and lifestyle modification are recommended by several studies as the first line therapy for OAB.^{2,3,12} There are two principles for this therapy, one is modifying the voiding pattern using delayed voiding method and bladder training. The other is to strengthen the pelvic floor muscle to manage urgency and to prevent incontinence.² It is important to educate and give information to patients about diet (types and amount of beverages, food and timing of consumption).¹² Each treatment for each patient must be tailored accordingly depending on several factors such as age, level of education, and availability of caregiver.³

American Urological Association/ Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (AUA/SUFU) have recommended that combination of behavioral therapies and antimuscarinic as the first line treatment. Several literatures reported that this combination can improve outcomes compared to each treatment alone.² The same recommendation also issued by Indonesian Continence Association.¹⁰

Several types of drugs have been investigated for the treatment of OAB.¹² AUA/ SUFU guidelines recommended oral antimuscarinic as second-line therapy.² Every single antimuscarinic has its own side effects. The most common side effect is dry mouth. Other side effects are blurry vision, gastroesophageal reflux, constipation, urinary retention, and cognitive impairment. Cognitive impairment is one of the primary concern in elderly population since dementia commonly occurs in this group of people.¹²

Antimuscarinic drugs are efficacious, safe, and well-tolerated treatments that improve quality of life.²¹ Many studies with the aim to compare among antimuscarinic drugs had been published with various results.^{5,12,22,23} Most Indonesian

urologists (98.5%) used antimuscarinic as their initial therapy to treat OAB. This result was suitable with the guideline that has been published.^{2,10,13}

Follow-up is useful in assessing treatment compliance, symptom improvement and side effects of the drugs. Based on those information, alternative treatments can be prescribed for patients with minimal symptom improvement and disturbing side effects of the drugs.² Offering follow-up and alternative treatments to the patients have been recommended by the guidelines.^{2,10} All of the Indonesian urologists perform follow-up for the patients and almost all of them assess the symptom improvement. This finding was in line with the guidelines.^{2,10}

AUA/SUFU guideline recommends antimuscarinic dose modification or switching to a different antimuscarinic in patients with minimal symptom improvement and intolerable side effects of the drugs.² One antimuscarinic drug has not been proven superior to other drugs for improvement in symptoms and quality of life.¹³ Recent study showed that most of Indonesian urologists choose to modify the antimuscarinic dose or to switch the type of antimuscarinic once a patient had failed the initial therapy. This finding was suitable with the guideline.²

OnabotulinumtoxinA and/or neuromodulation may be an other treatment option for the carefully selected patients who has failed behavioral and antimuscarinic therapies.^{2,10} Previous studies reported the efficacy of peripheral tibial nerve stimulation (PTNS) in the treatment of incontinence, frequency, nocturia, and the improvement of quality of life.^{2,24-27} Studies on sacral neuromodulation demonstrated that all improvement of quality of life and subjective symptoms.^{2,28-31} The FDA has already approved injection of intradetrusor onabotulinumtoxinA (100U) as a third-line treatment in non-neurogenic OAB patients.²

Indwelling catheters remain the last treatment option and are not recommended for OAB. Patients with refractory and complicated OAB can be offered augmentation of the bladder or urinary diversion although these treatments are very rare.^{2,10,12,13} A few of Indonesian urologists offered neuromodulation and augmentation of

the bladder once they failed the therapy. None of them offer the use of onabotulinumtoxinA to a patient probably due to the regiment has not been circulating in Indonesia.

In conclusion, OAB is a frequent disorder which remains a challenge for urologists. The management of patients with OAB by Indonesian urologists has been suitable with the previous studies and guidelines.

Conflict of interest

All authors affirm no conflict of interest in this study.

REFERENCES

1. Robinson D, Cardozo L. Overactive bladder: diagnosis and management. *Maturitas*. 2012;71(2):188-93.
2. Gormley EA, Lightner DJ, Burgio KL, Chai TC, Clemens JQ, Cullkin DJ, et al. Diagnosis and treatment of overactive bladder (non-neurogenic) in adults: AUA/SUFU guideline. *J Urol*. 2012.188(6Suppl):2455-63.
3. Foon R, Drake MJ. The overactive bladder. *TherAdv Urol*. 2010;2(4):147-55.
4. Mostwin JL. Pathophysiology: the varieties of bladder overactivity. *Urology*. 2002;60(5Suppl1):22-6.
5. Chapple CR, Martinez-Garcia R, Selvaggi L, Toozs-Hobson P, Warnack W, Drogendijk T, et al. A comparison of the efficacy and tolerability of solifenacin succinate and extended release tolterodine at treating overactive bladder syndrome: results of the STAR trial. *Eur Urol*. 2005;48(3):464-70.
6. Tubaro A. Defining overactive bladder: epidemiology and burden of disease. *Urology*. 2004;64(6 Suppl 1):2-6.
7. Irwin DE, Milsom I, Hunskaar S, Reilly K, Kopp Z, Herschorn S, et al. Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: results of the EPIC study. *Eur Urol*. 2006;50(6):1306-15.
8. Sumardi R, Mochtar CA, Junizaf, Santoso BI, Setiati S, Nuhonni SA, et al. Prevalence of urinary incontinence, risk factors and its impact: multivariate analysis from Indonesian nationwide survey. *Acta Med Indones*. 2014;46(3):175-82.
9. Freeman RM, Adekanmi OA. Overactive bladder. *Best Pract Res Clin Obstet Gynaecol*. 2005;19(6):829-41.
10. Rahardjo HE, Santoso BI, Hakim S, Hasan B, Tjahjodjati, Moegni F. Inkontinensia urin pada perempuan. In: Rahardjo HE. Panduan tatalaksana inkontinensia urin pada dewasa. Jakarta: Perkumpulan Kontinensia Indonesia (PERKINA). 2012;6-12. Indonesian.
11. Setiati S, Istanti R. Survei inkontinensia urin (mengompol) pada usia lanjut di lingkungan pusat santunan keluarga (pusaka). *Maj Kedokt Indon*. 2003;53:136-9. Indonesian
12. Ouslander JG. Management of overactive bladder. *N Eng J Med*. 2004;350(8):786-99.

13. Lucas MG, Bedretidnova D, Bosch JLHR, Burkhard F, Cruz F, Nambiar AK, et al. Guidelines on urinary incontinence. European Association of Urology. 2014.
14. Barry MJ, Fowler FJ Jr, O'Leary MP, Bruskewitz RC, Holtgrewe HL, Mebust WK, et al. The American Urological Association symptom index for benign prostatic hyperplasia. The Measurement Committee of the American Urological Association. *J Urol.* 1992;148(5):1549-57.
15. Homma Y, Yoshida M, Seki N, Yokoyama O, Kakizaki H, Gotoh M, et al. Symptom assessment tool for overactive bladder syndrome-overactive bladder symptom score. *Urology.* 2006;68(2):318-23.
16. Homma Y, Kakizaki H, Yamaguchi O, Yamanishi T, Nishizawa O, Yokoyama O, et al. Assessment of overactive bladder symptoms: comparison of 3-day bladder diary and the overactive bladder symptoms score. *Urology.* 2011;77(1):60-4.
17. Hung MJ, Chou CL, Yen TW, Chuang YC, Meng E, Huang ST, et al. Development and validation of the Chinese Overactive Bladder Symptom Score for assessing overactive bladder syndrome in a RESORT study. *J Formos Med Assoc.* 2013;112(5):276-82.
18. Blaivas JG, Panagopoulos G, Weiss JP, Somaroo C. Validation of the overactive bladder symptom score. *J Urol.* 2007;178(2):543-7.
19. Coyne KS, Zyczynski T, Margolis MK, Elinoff V, Roberts RG. Validation of an overactive bladder awareness tool for use in primary care settings. *Adv Ther.* 2005;22(4):381-94.
20. Acquadro C, Kopp Z, Coyne KS, Corcos J, Tubaro A, Choo MS, et al. Translating overactive bladder questionnaires in 14 languages. *Urology.* 2006;67(3):536-40.
21. Chapple CR, Khullar V, Gabriel Z, Muston D, Bitoun CE, Weinstein D. The effects of antimuscarinic treatments in overactive bladder: an update of a systematic review and meta-analysis. *Eur Urol.* 2008;54(3):543-62.
22. Chapple CR, Rechberger T, Al-Shukri S, Meffan P, Everaert K, Huang M, et al. Randomized, double-blind placebo- and tolterodine-controlled trial of the once-daily antimuscarinic agent solifenacin in patients with symptomatic overactive bladder. *BJU Int.* 2004;93(3):303-10.
23. Chapple C, Van Kerrebroeck P, Tubaro A, Haag-Molkenteller C, Forst HT, Massow U, et al. Clinical efficacy, safety, and tolerability of once-daily fesoterodine in subjects with overactive bladder. *Eur Urol.* 2007;52(4):1204-12.
24. Amarenco G, Ismael SS, Even-Schneider A, Raibaut P, Demaille-Wlodyka S, Parratte B, et al. Urodynamic effect of acute transcutaneous posterior tibial nerve stimulation in overactive bladder. *J Urol.* 2003;169(6):2210-5.
25. MacDiarmid SA, Peters KM, Shobeiri SA, Wooldridge LS, Rovner ES, Leong FC, et al. Long-term durability of percutaneous tibial nerve stimulation for the treatment of overactive bladder. *J Urol.* 2010;183(1):234-40.
26. Peters KM, Carrico DJ, Perez-Marrero RA, Khan AU, Wooldridge LS, Davis GL, et al. Randomized trial of percutaneous tibial nerve stimulation versus Sham efficacy in the treatment of overactive bladder syndrome: results from the SUMiT trial. *J Urol.* 2010;183(4):1438-43.
27. Yoong W, Ridout AE, Damodaram M, Dadswell R, et al. Neuromodulative treatment with percutaneous tibial nerve stimulation for intractable detrusor instability: outcomes following a shortened 6-week protocol. *BJU Intl.* 2010;106(11):1673-6.
28. Groen J, Blok BF, Bosch JL. Sacral neuromodulation as treatment for refractory idiopathic urge urinary incontinence: 5-year results of a longitudinal study in 60 women. *J Urol.* 2011;186(3):954-9.
29. Leong RK, Marcelissen TA, Nieman FH, De Bie RA, Van Kerrebroeck PE, De Wachter SG. Satisfaction and patient experience with sacral neuromodulation: results of a single center sample survey. *J Urol.* 2011;185(2):588-92.
30. Oerlemans DJ, Van Voskuilen AC, Marcelissen T, Weil EH, de Bie RA, Van Kerrebroeck PE. Is on-demand sacral neuromodulation in patients with OAB syndrome a feasible therapy regime?. *Neurourol Urodyn.* 2011;30(8):1493-6.
31. Vaarala MH, Tammela TL, Perttilä I, Luukkonen P, Hellström P. Sacral neuromodulation in urological indications: the Finnish experience. *Scand J Urol Nephrol.* 2011;45(1):46-51.