



Commentary

Commentary on “Solving the benign prostatic hyperplasia puzzle”



Dominique Thomas ^a, Bilal Chughtai ^a, Steven Kaplan ^{a,b,*}

^a Department of Urology, Weill Cornell Medicine/New-York Presbyterian Hospital, New York, NY, USA

^b Department of Urology, Icahn School of Medicine at Mount Sinai, New York, NY, USA

Received 27 August 2016; accepted 1 September 2016

Available online 20 September 2016

Benign prostatic hyperplasia (BPH) is a common condition affecting over 50% of men as they reach the 5th decade of their life [1]. While over half of these patients have symptoms, it is not clear why some of these men do while others do not. The article *Solving the benign prostatic hyperplasia puzzle* by Keong Tatt Foo [2], delves into the different conundrums urologists face when trying to treat their patients. The purpose of this commentary is to bring these issues to light to spur and guide further research efforts.

First, why do some small prostates lead to bladder outlet obstruction while some large prostates do not? Sometimes the question is not how large the prostate is but what is its shape and anatomy. Although we tend to correlate lower urinary tract symptoms (LUTS) with benign enlargement of the prostate (BPE), in practice it is not uncommon to see patients with small prostates having severe LUTS [3]. The adenoma can affect two zones: the transitional and periurethral zone. The adenoma can then give rise to different degrees of obstruction depending on its location [3]. This can also occur with the subcervical adenoma in patients with a small prostate which is located below the bladder neck. This is not a bladder neck problem

in and over itself but can obstruct and cause LUTS. It is a problem commonly seen in younger patients. Classical median lobe occurs when the prostatic adenoma (PA) is situated in the periurethral zone and grows into the bladder. This can create a “ball-valve” phenomenon leading to obstruction [4].

Grading of IPP. The most interesting puzzle refers to grading of the intravesical prostatic protrusion (IPP). IPP refers to “the distance in mm from the inner most tip of the protrusion to the base of the prostate, at the circumference of the bladder” [2]. Studies have found IPP to be effective in diagnosing BPH and other obstructive problems [5,6]. IPP grading can be utilized to predict failure rates in those with urinary retention due to the correlation of “urodynamic evidence of obstruction” and predict the clinical progression of BPH [2,7]. Lee et al. [8] evaluated the IPP as a predictor of BPE. At total of 259 patients were treated to LUTS secondary to BPE. IPP was graded as 1, 2 or 3. Fifty-two patients had a clinical progression of BPE. A grade 2 IPP had an odds ratio of 5.1 and a grade 3 IPP was 10.4.

What is the relationship between clinical BPH and LUTS? As we know, BPH is associated with LUTS. However, there are many men with BPH who do not have significant LUTS. We often target the underlying BPH, either medically or surgically, to alleviate cumbersome symptoms of this condition [9,10]. However, there is a poor association between PA obstruction and symptom severity. In clinical practice, it is not appropriate to treat patients based on a single symptom severity score, i.e., the International Prostate Symptom alone; the use of

Peer review under responsibility of Second Military Medical University.

* Corresponding author. Icahn School of Medicine at Mount Sinai, 625 Madison Avenue, New York, NY 10022, USA.

E-mail address: steven.kaplan@mountsinai.org (S. Kaplan).

<http://dx.doi.org/10.1016/j.ajur.2016.09.007>

2214-3882/© 2018 Editorial Office of Asian Journal of Urology. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

uroflow, post void residual, and in complex cases pressure flow studies help to put the pieces together to uncover the underlying issue [9].

Prostate specific antigen (PSA) does not increase with age. There has been conflicting information regarding if PSA increases with age. Evidence suggests men with no PA, PSA remains in equilibrium and does not increase with age in the absence of adenocarcinoma of the prostate. However, in men with no prostate cancer, different degrees of PA can be associated with variable and fluctuating changes in PSA.

In conclusion, there are many puzzles regarding the BPH epidemic. By redefining the clinical definition of BPH, when faced with these issues urologists have been able to treat patients effectively when utilizing a variety of BPH treatment options and being proactive in our approaches to alleviating their symptoms.

References

- [1] Lepor H. Pathophysiology, epidemiology, and natural history of benign prostatic hyperplasia. *Rev Urol* 2004;6(Suppl. 9): S3–10.
- [2] Foo KT. Solving the benign prostatic hyperplasia puzzle 2016; 3:6–9.
- [3] Hirayama A, Samma S, Fujimoto K, Yamaguchi A, Akiyama T, Fukui Y. Comparison of parameters to determine the cause of urinary disturbance in men with prostate volume less than 20 milliliters. *Int J Urol* 2002;9:554–9; discussion 560.
- [4] Luo GC, Foo KT, Kuo T, Tan G. Diagnosis of prostate adenoma and the relationship between the site of prostate adenoma and bladder outlet obstruction. *Singap Med J* 2013;54: 482–6.
- [5] Yoshida T, Kinoshita H, Yoshida K, Mishima T, Taniguchi H, Yanishi M, et al. Intravesical prostatic protrusion as a predicting factor for the adverse clinical outcome in patients with symptomatic benign prostatic enlargement treated with dutasteride. *Urology* 2016;91:154–7.
- [6] Chia SJ, Heng CT, Chan SP, Foo KT. Correlation of intravesical prostatic protrusion with bladder outlet obstruction. *BJU Int* 2003;91:371–4.
- [7] Kim JH, Shim JS, Choi H, Moon DG, Lee JG, Kim JJ, et al. Terminal dribbling in male patients with lower urinary tract symptoms: relationship with International Prostate Symptom Score and with intravesical prostatic protrusion. *BMC Urol* 2015;15:89.
- [8] Lee LS, Sim HG, Lim KB, Wang D, Foo KT. Intravesical prostatic protrusion predicts clinical progression of benign prostatic enlargement in patients receiving medical treatment. *Int J Urol* 2010;17:69–74.
- [9] Chughtai B, Forde JC, Thomas DD, Laor L, Hossack T, Woo HH, et al. Benign prostatic hyperplasia. *Nat Rev Dis Prim* 2016;2: 16031.
- [10] Chughtai B, Mian BM. High risk prostate cancer: evolving definition and approach to management. *Can J Urol* 2008;15: 4375–80.