



Functional medicine

Giant benign prostatic hyperplasia: A case report

Seyed Mohammad Kazem Aghamir, Fatemeh Khatami, Mohammad Reza Rahimi, Fateme Guitynavard*

Urology Research Center, Tehran University of Medical Sciences, Tehran, Iran

ARTICLE INFO

Keywords:

Benign prostatic hyperplasia
BPH
Case report

ABSTRACT

Benign prostatic hyperplasia (BPH) is prostate weighting f over 500g and is usually public in men older than fifty years.

A case of 78-year-old man was referred to Sina hospital complaining of urinary frequency. His total prostate-specific antigen was 17.3 ng/mL and the volume of his prostate was measured at 350 mL by transrectal ultrasound. Simple prostatectomy was done and a huge adenoma was enucleated in an open retropubic manner weighting 1070g. "Giant BPH" is a rare pathology of the prostate gland. In this study, we report a successful enucleation of a giant BPH (1070 g) without any significant complications.

Introduction

At least one third of men over 60, suffer from progressive lower urinary tract symptoms due to benign prostatic hyperplasia (BPH).¹ Prostatic enlargement as a result of BPH can exceed 100g only in 4% of men older than 70 years.² Giant BPH is defined as a prostate weight of over 500g.³ To date, the largest adenoma ever reported was approximately 2410g.⁴ Here in this report, we present a case of giant BPH (1070 g), which was successfully removed by retropubic prostatectomy without intraoperative complications. "Giant BPH" is a rare pathology of the prostate gland. In this study, we report a successful enucleation of a giant BPH (1070 g) without any significant complications through a retropubic manner.

Case presentation

A 78-year-old man was referred to our center with urinary frequency. He had no obstructive urinary symptoms, no hematuria and no urinary incontinuity. In physical examinations, we found no abnormality but a visible and palpable solid mass in suprapubic region and a large volume, firm prostate, borders of which were not identified in digital rectal examination. Routine laboratory analyses were within normal ranges except total prostate-specific antigen, which was 17.3 ng/mL. The volume of the prostate was measured at 350 mL by transrectal ultrasound.

In ultrasonography examination, the radiologist reported a huge prostatic mass which had pushed the bladder into the right side of the

pelvic cavity with the likelihood of invading into the rectal wall. Both kidneys were reported as normal with no hydronephrosis or stones.

In a pelvic MRI, the fact that prostate is the origin of the mass was confirmed and again a susceptibility of rectal invasion was reported. The patient was then visited by a colorectal surgeon. He performed colonoscopy which was normal and a percutaneous needle biopsy of the mass. The pathology report was consistent with BPH.

Cystoscopy was performed just before the surgery and confirmed the ultrasound findings of the enormous prostate and bladder deviation. Simple prostatectomy was planned, and a huge adenoma was enucleated in an open retropubic manner (Fig. 1). We had about 1100 cc blood loss and there were no intraoperative complications.

The removed specimen was weighed at 1070g. Pathologic examinations confirmed BPH with chronic inflammation. The catheter was removed after a week; the patient had a successful try to void then. At a 6-month follow-up, the patient did not have discomfort in voiding or urinary incontinence.

Discussion

BPH is one of the most common diseases experienced by aging men. BPH is defined as a prostate weighing more than 500g <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5730805/>.³ In the current literature, there are few cases of BPH with volumes greater than 500g, and only some of the reported cases of giant prostate enlargement exceed 700g.³⁻⁵ Our case represents the second largest prostate reported in the

* Corresponding author. Imam Khomeini St., Hassan Abad Sq, Sina Hospital, Urology Research Center (URC), Tehran, Iran.
E-mail addresses: urc@tums.ac.ir, f-guitynavard@ymail.com (F. Guitynavard).

<https://doi.org/10.1016/j.eucr.2019.101051>

Received 10 September 2019; Accepted 16 October 2019

Available online 19 October 2019

2214-4420/© 2019 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



Fig. 1. The 1070 kg BPH after simple prostatectomy.

literature.

The pathophysiology of GPH is not fully understood. Hypotheses suggest a combination of abnormal stromal-epithelial paracrine signaling, an imbalance between androgenic, cytokine and peptide growth signaling, a reduction in apoptosis and a proliferation in stromal and epithelial cells which result in significant prostate enlargement. Specifically, mutations of proto-oncogenes such as Ras and c-erbB2, as well as the down-regulation of the p53 suppressor gene, can lead to abnormal and continuous cellular proliferation <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5730805/>.³

Surgical intervention is indicated in BPH when patients have complications like acute urinary retention, recurrent gross hematuria, urinary tract infections, renal insufficiency, and bladder stones all due to prostate enlargement, or lower urinary tract symptoms which are not

responsive to medical treatment. There are different surgical options for small and medium-sized prostates like endoscopic procedures. Open prostatectomy is a useful technique for resection of large prostates, and those with coexistent problems like bladder stones.

Conclusion

“Giant BPH” is a rare pathology of the prostate gland. In this study, we report a successful enucleation of a giant BPH (1070 g) without any significant complications through a retropubic manner.

Funding

There is no funding for this case report.

Declaration of competing interest

All authors claim that there is no any conflict of interest or competing interest for this study.

Acknowledgments

Special thanks to the Urology Research Center (URC), Sina Hospital.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.eucr.2019.101051>.

References

1. Learney RM, Malde S, Downes M, Shrotri N. Successful minimally-invasive management of a case of giant prostatic hypertrophy associated with recurrent nephrogenic adenoma of the prostate. *BMC Urol.* 2013;13:18. <https://doi.org/10.1186/1471-2490-13-18>. Published 2013 Apr 8.
2. Berry SJ, Coffey DS, Walsh PC, Ewing LL. The development of human prostatic hyperplasia with age. *J Urol.* 1984;132:474–479 ([PubMed] [Google Scholar]).
3. Maliakal J, Mousa EE, Menon V. Giant prostatic hyperplasia: fourth largest prostate reported in medical literature. *Sultan Qaboos Univ Med J.* 2014;14:e253–e256 (PMC free article) [PubMed] [Google Scholar] [Ref list]).
4. Medina Pérez M, Valero Puerta J, Valpuesta Fernández I, Sánchez González M. Giant hypertrophy of the prostate: 2,410 grams of weight and 24 cm in diameter. *Arch Esp Urol.* 1997;50:795–797 ([in Spanish] [PubMed] [Google Scholar]).
5. Gilbert J. One-stage suprapubic prostatectomy for a gland weighing 713 grams (one and one-half pounds). *Urol Cutan Rev.* 1939;309–310 ([Google Scholar]).