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A case report of giant prostatic hyperplasia in a resource-challenged center

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A B S T R A C T

A benign enlargement of the prostate with weight measured above 500 gr is a rare entity that is not characterized with specific clinical findings, and requires simple open prostatectomy as the chosen management for such cases especially, in low resource context. Hereby we present a rare case of 570 gr weighted prostate hyperplasia, managed within resource-challenged hospital.

1. Introduction

Benign Brostatic Hyperplasia (BPH) is one of the most common aging-related and non-life-threatening conditions.[1–3] Histological statistical studies indicate the presence of BPH in 60% of men over sixty years.[1] BPH causes progressive lower urinary tract symptoms that adversely affect patients' quality of life. Lower urinary symptoms are categorized as storage symptoms that include: urinary frequency, nocturia, urgency and urge incontinence, and voiding symptoms that include: hesitancy, poor urinary flow, the sensation of incomplete bladder emptying, post-micturition dribbling, and prolonged urination.[1] Giant Prostatic Hyperplasia (GPH) is defined as benign enlargement of the prostate gland weighing greater than 200 or 500 gr.[3] Which is an extremely rare entity documented in very few cases. Simple open prostatectomy has remained the optimal and recommended management for BPH weighting above 75 gr, while the Transurethral Resection of the prostate is currently the surgery of choice for BPH with average sizes smaller than 50–80 gr.[1,2]

2. Case presentation

A 77-year-old man was admitted to the department of urologic surgery in our hospital with lower urinary tract symptoms and chronic constipation for many years. He had no hematuria, no urinary incontinency, and no history of severe comorbidities or surgical procedures. On physical examination, a bilateral inguinal hernia was diagnosed. Through digital rectal examination, enlarged hardened prostate with benign consistency was revealed, placing pressure on the anterior wall of the rectum that obstructed insertion of the examiner's finger. The total PSA levels were 16 ng/ml. An abdominal ultrasound was performed which showed a grossly enlarged prostate. The volume of the prostate was measured at 500 ml, other ultrasonography findings include 1000 ml of residual urine volume, and asymptomatic bladder diverticula protruding out of the lateral walls of the bladder with no indications for surgical treatment. The kidneys evaluation was within normal limits. a urinary catheter was placed and a urine sample was collected for culture. Open Suprapubic Prostatectomy was performed, and the whole hyperplastic prostatic adenoma was enucleated through a direct incision with minimal bleeding and no complications. The extirpated prostate measured 15.5 × 13 × 5 cm, weights 570 gr [Fig. 1], Foley catheter was placed, then removed after 10 days, the cut surface was sponge lobulated tissue with abscess formation, the final pathological analysis revealed Benign prostatic hyperplasia, nonspecific inflammation, micro abscess formation and multiple squamous metaplasia foci [Fig. 2]. After 3-days post-operation surveillance, the patient was discharged home. At a 6-month follow-up, there were no signs of incontinence or discomfort in urinary flow.

3. Discussion

Community-based and functional Studies provide insights into the associations between the frequency of lower urinary tract symptoms, prostate enlargement, and age-related changes on the level of molecular pathology and physiology.[1] pathologists point out that the Pathology of GPH is not illustrated well, the Mutation in proto-oncogenes, including RAS and Cerb-2, as well as deletion or mutation in the p53 repressor gene, lead to Abnormal continuous excessive cell proliferation.[1,3] Major causes associated with LUTS in the case of BPH include urethral

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Fig. 1. The enucleated Giant BPH specimen 15.5 × 13 × 5 cm, 570 gr.

compression, age-related detrusor muscle function changes, stimulation of lower urinary tract nerves, and the release of multiple biochemical mediators effects on bladder smooth muscle contractility.[1] A complete physical examination is crucial for such cases in low resources settings. digital rectal examination is useful in excluding malignancy by detecting locally advanced prostate cancer and possibly providing an estimation of the gland size, in our case, no malignancy signs were detected.[1,2] PSA levels may represent a valuable estimation of prostate volume with not enough evidence of its reliability in clinical management decision, many but not all patients with BPH, even with large prostatic volume, have high PSA levels, on the other hand, using PSA as a marker for prostate cancer is not enough especially in early stages.[1,2] In this case, a moderately detected high level of PSA may suggest the presence of BPH, but cannot predict its malignancy or prostate volume. Transrectal ultrasonography, CT, and MRI are mostly recommended for an accurate evaluation of prostate volume above 30 cc which affects the surgical intervention method.[4] However, in limited resources contexts, an abdominal ultrasound may be a good alternative with limited accuracy as a prostate sizing formula. other examinations and investigation methods are performed for the diagnosis and evaluation of the BPH and related LUTS. No specific LUTS or the related severity measurements are reliable indicators for the prostate enlargement or its size, which require more additional tests for determining the prostate volume, as well as, excluding other suspected disorders or comorbidities, including urine cytology and culture, Computerized tomography scan (CT) or Magnetic resonance imaging (MRI), and renal function assessment.[1,2] BPH Patients with moderate to severe complications are candidates for surgical intervention.[1,2] The standard surgical technique for small-moderate-sized BPH (less than 80 ml) is transurethral resection of the prostate TURP.[1–5] However, the past two decades have witnessed the emergence of more surgical intervention options, especially with the extensively increasing trends of minimally invasive techniques that showed better outcomes in terms of morbidity and complications.[2] but still, there are several limitations in terms of long-term outcomes which require longer follow-up assessments. In the case of giant BPH, open surgery is mostly recommended, even though it is associated with a high risk of preoperative complications, there is sufficient evidence of its effectiveness sustainability.[2] Other highly recommended alternative techniques are laparoscopic and robotic simple prostatectomy, Holmium laser enculation of the prostate (HoLEP), photoselective vaporization of the prostate (PVP), and prostatic artery embolization (PAE).[1–3,5] Hence, in the light of the BPH features, available resources, and team of surgeons' experience, the classic open surgery was selected to treat the presented giant BPH, operation time was short, the bleeding amount was considerably low and no postoperative complications were observed.

4. Conclusion

We describe an unusual presentation of a giant funnel-shaped prostatic hyperplasia, the patient was treated adequately using classic open surgery despite the insufficient resources for its diagnosis and management, we recommend considering all the alternative available methods for the evaluation and intervention in such cases and the referral to highly experienced specialists.

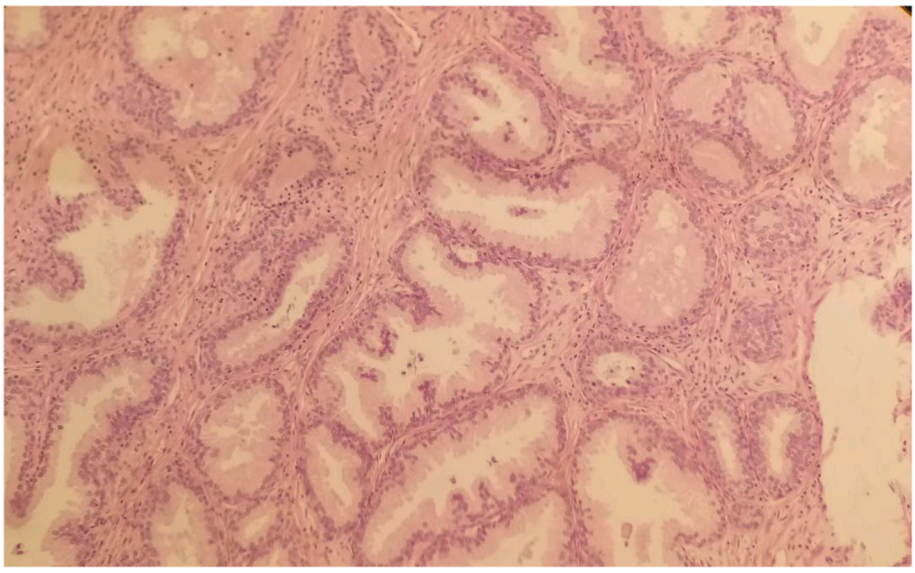

Fig. 2. Microscopic picture of the pathological findings in the prostatic specimen.

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