

CASE REPORT

Giant Benign Prostatic Hyperplasia in a Ghanaian

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Giant Benign Prostatic Hyperplasia (GBPH) is an uncommon pathology of the prostate gland. Up to date, only 17 cases have been described with specimen weights exceeding 500 g in the world literature. We report the successful removal of the largest ever benign prostatic hyperplasia (800 g) via transvesical prostatectomy from West Africa, which also happens to be the 3rd largest in the world. The patient was an 82 year old man with refractory urine retention and gross haematuria.

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INTRODUCTION

Elderly men often seek treatment for chronic and progressive lower urinary tract symptoms resulting from Benign Prostatic Hyperplasia (BPH) and its related complications (Ali Asghar, 2012; Ucer *et al.*, 2011). Prostate gland enlargement from benign hyperplasia hardly exceeds 100 g and this occurs in only 4% of men above 70 years (Fishman and Merrill, 1993). Giant Benign Prostatic Hyperplasia (GBPH) has been defined variedly as prostate specimens weighing more than 200 g (Fishman and Merrill, 1993) or 500 g (Singh *et al.*, 2010). GBPH is an uncommon pathology of the prostate gland and to date only 17 cases have been described with specimen weights exceeding 500 g in literature (Akpo and Akpo, 2011).

The largest ever prostate removed weighed 2410 g and was carried out by exploratory laparotomy because it was thought to be a retroperitoneal tumor (Medina Perez *et al.*, 1997). However, the largest prostatic adenoma ever removed by supra-pubic prostatectomy weighed 820 g, but the patient died

after surgery from uncontrolled haemorrhage (Kawamura *et al.*, 1984). This study reported the successful removal of an 800 g prostatic adenoma by suprapubic transvesical prostatectomy, in three pieces, in a patient who survived the surgery.

Case Presentation and Management

An 82-year old man presented with a 5-year history of lower urinary tract symptoms with a Foley urethral catheter in situ for the past 5 months on account of refractory urine retention. He had been experiencing recurrent episodes of haematuria. Digital rectal examination revealed a huge prostate gland with benign features. The margins were difficult to define. The estimated total serum prostate specific antigen (PSA) level was 50 ng mL⁻¹. The prostatic volume measured by ultrasound was 670 g. He had an elevated creatinine level of 179 μmol L⁻¹ and a hemoglobin level of 9.5 g dL⁻¹. Suprapubic transvesical prostatectomy (Figure 1) under spinal anesthesia was carried out and the giant adenoma enucleated completely in three pieces according to standard operating procedures.

Haemostasis was achieved by two stay sutures of Vicryl 1 placed at the 5' and 7' o'clock positions of the bladder neck and loosely tied behind the inflated balloon of a 22ch 3-way Foley catheter which

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was then put on traction. This step prevented the balloon from being pulled into the prostatic fossa upon application of traction on the catheter. An 18ch two way suprapubic catheter was also placed as a safety precaution for extra drainage. Blood loss was estimated to be 450 ml; the patient required 3



Figure 1: GBPH as seen intra-operatively, through the opened anterior bladder wall



Figure 2: Post-operative resected specimen of the prostate gland

units of blood peri-operatively. Post-operative haemoglobin level was 11.2 g dL^{-1} . The removed prostatic specimen weighed 800 g (Figure 2). Histologic examination revealed benign proliferation of prostatic glandular tissue with no malignant features. The suprapubic catheter was removed on the 2nd post-operative day and the urethral catheter on the 7th day. The patient was able to void freely and he was discharged from hospital on the 10th post-operative day. At 2 months' follow-up, the peak flow rate was normal, he had good bladder control and the serum creatinine level had normalized. His PSA level had reduced to 4.2 ng mL^{-1} from the pre-operative value of 50 ng mL^{-1} .

DISCUSSION

BPH is a common problem among elderly men that can lead to serious complications, such as acute urinary retention, refractory gross hematuria, recurrent urinary tract infections, stones and diverticula formation (Akpo and Akpo, 2011; Ali Asghar, 2012). Whereas some authors define GBPH as any prostate weighing more than 500 g (Ogawa *et al.*, 2012), others use 200 g (Ockerblad, 1946; Yonou *et al.*, 1999) as the cut off value. In Japan, 33 cases have so far been reported with prostatic size above 200 g (Noguchi *et al.*, 2002; Ockerblad, 1946). Though transurethral resection of the prostate (TURP) is the accepted management for the treatment of symptomatic small-sized BPH less than 75 g that has failed medical treatment, newer techniques such as laser enucleation have expanded the scope (Noguchi *et al.*, 2002; Sood *et al.*, 2006).

However, the only accepted treatment for giant prostates is the traditional open prostatectomy (Akpo and Akpo, 2011). Transvesical prostatectomy after Freyer is the enucleation of the prostatic adenoma through an extra-peritoneal incision of the anterior urinary bladder wall. This operation is best suited for patients who have a large median lobe protruding into the bladder as in our case (Figure 1), a concomitant, symptomatic bladder diverticulum or a large bladder calculus not amenable to endoscopic removal (Fishman and Merrill, 1993; Noguchi *et al.*, 2002; Sood *et al.*, 2006; Yonou *et al.*, 1999).

Haemostasis after open prostatectomy has traditionally been achieved by the use of a malament stitch (Akpo and Akpo, 2011). In this case, two stay sutures using Vicryl 1 were placed at the 5 and 7 o'clock positions and loosely tied behind an inflated balloon of the 22ch 3-way Foley catheter which was then put on traction. From literature, 17 cases of GBPH have so far been described with weights exceeding 500 g. This case report is the 3rd heaviest ever reported in world literature and the heaviest ever reported in West Africa (Table 1).

Table 1: Giant prostates greater than 500 g in the literature

Author(s)	Weight (g)
Medina Perez <i>et al.</i> , (1997)	2410
Ockerblad, (1946)	820
Ucer <i>et al.</i> , (2011)	734
Nelson, (1940)	720
Gilbert, (1939)	713
Wadstein, (1938)	705
Lantzius-Beninga, (1966)	705
Ashamalla and Ahmed, (1972)	695
Walker, (1919)	680
Yilmaz <i>et al.</i> , (2006)	610
Bacon, (1949)	602
Middleton, (1937)	557
Kitagawa and Kano, (1980)	535
Fishman and Merrill, (1993)	526
Sood <i>et al.</i> , (2006)	522
Akpo and Akpo, (2011)	510
Hosseini and Safarinejad, (2009)	508

Digital rectal examination and ultrasonography were used to diagnose the GBPH in this patient. Although the PSA level of the patient was 50.00 ng mL⁻¹, he did not undergo prostate biopsy as this was thought to be due to the giant nature of the prostate gland. This approach is similar to the work done by Akpo and Akpo (2011) and Ucer *et al.* (2011) who encountered patients with similarly huge prostatic adenomas with elevated PSA levels and did not biopsy them pre-operatively on account of their benign features. Simple suprapubic prostatectomy was performed and the prostatic adenoma was successful

-ly removed in three pieces.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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