

Management of Benign Prostatic Hypertrophy in the Urology Unit of the Reference Health Center of Commune I of Bamako

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Abstract

Original Research Article

Objective: To study the management of benign prostatic hypertrophy in the urology unit of the Reference Health Center of commune I of Bamako. **Patients and Methods:** This is a descriptive study with cross-sectional data collection, carried out in the urology unit of the Reference Health Center of commune I of Bamako from June 1, 2022 to June 1, 2023 (12 months). **Results:** Out of a total of 986 patient files, 124 patients were admitted for BPH, representing a frequency of 12.57. The average age of the patients was 62 years \pm 12.5 years with extremes of 51 and 92 years. Urinary frequency with 29% was the main reason for consultation. The average IPSS score was 20 with extremes of 5 and 30. Urinary schistosomiasis was the main pathological antecedent with 29.8% of cases. In 18.5% of cases, patients had a transurethral bladder catheter preoperatively. On rectal examination the prostate was enlarged to a firm, painless size with a regular contour in 32.3% of cases. Hypercreatinine was observed in 16.93% of patients and a urinary infection in 37.1% of them with the main germs isolated: Escherichia coli followed by Klebsiella pneumoniae with 15.3% and 9.7% respectively. The PSA level was normal in 66.9% of our patients with an average level of 5.5ng/ml. The average ultrasound weight of the prostate was 70.2g with extremes of 32 and 226g. The average post-void bladder residual was 96.8 ml. The majority of our patients had pure adenofibromyomatous medical was the main indication for surgery (28.6%). Trans-vesical adenomectomy of the prostate according to FREYER HRYNTCHAK was performed in all our operated patients. A hernia repair was in 10.7% of cases, a cystolithotomy and a diverticulum repair in 8.9 and 5.4% of cases respectively. The average duration of catheter wearing was 8.2 days with extremes of 7 and 32 days. The postoperative course was simple in 78.6% of cases. **Conclusion:** Benign prostatic hypertrophy is the most common urological pathology in elderly men. It is a major cause of lower urinary tract problems affecting the quality of life of patients. Transvesical adenomectomy of the prostate still remains a widely used therapeutic method for the management of this disease in our context.

Keywords: Support, HBP, Municipality I reference health center. Hyperplasia (59.6%). Surgical treatment was done in 45.2% of patients and treatment failure.

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INTRODUCTION

Benign prostatic hypertrophy (BPH) is a common pathology in men aged over 50. It is a multifocal, non-malignant, hyperplastic, progressive histopathological change in the stromal and epithelial cells of the transitional zone of the prostate, leading to inflammation, fibrosis and changes in smooth muscle activity, which can cause partial or complete obstruction

of the urethra [1, 2]. In aging men, this obstruction constitutes a major cause of lower urinary tract symptoms and sexual disorders, thus impairing quality of life, explaining the frequency of anxiety disorders and depressive symptoms [4, 5]. In addition to the impairment of quality of life, BPH poses a significant risk of renal failure, urinary tract infection and renal lithiasis in a patient weakened by age and comorbidities.

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It is a major urological health problem among elderly men in many countries [1, 3].

In 2019, the global prevalence of benign prostatic hypertrophy in men aged 40 and over was 94 million cases, or 2,480 cases per 100,000 inhabitants. Age-specific prevalence has been estimated from autopsy studies to be 8% in the fourth decade of life, 50% in the sixth decade, and 80% in the ninth decade [1]. In France, nearly two million men have urinary problems and more than a million patients are treated each year for symptomatic BPH [6]. Surgery for benign prostatic hypertrophy (BPH) currently represents nearly 70,000 procedures each year in France [7].

In western sub-Saharan Africa, it was 1120 cases per 100,000 inhabitants [1]. In Africa, it constitutes the leading cause of surgery in certain urology departments [6-9]. In addition to age which constitutes the main risk factor, other factors have been highlighted, such as metabolic syndrome, obesity, diabetes, prostate inflammation, genetic predispositions, ethnic origin and lifestyle [7, 8]. Its diagnosis is based on data from the history, particularly symptoms of the lower urinary tract, and physical examination, especially rectal examination. Monitoring and drug treatment constitute the first therapeutic method. In case of failure or complications, surgery is proposed [1-9]. If in the West endoscopic surgery represents the reference surgery [7], in sub-Saharan Africa open surgery for BPH remains the most practiced [6-11]. In Mali Several studies have been carried out on BPH but very few of them have been published. This is how we proposed to carry out this study which aims to study the epidemiological, diagnostic and therapeutic aspects of BPH in the urology unit of the Reference Health Center of commune I from Bamako.

PATIENTS AND METHODS

- This is a descriptive study with cross-sectional data collection, carried out in the urology unit of the Reference Health Center of commune I of Bamako from June 1, 2022 to June 1, 2023 (12 months).
- Patients seen in consultation or hospitalized for BPH were included in the study.
- Patients who had an incomplete medical record and those who had a high PSA level without a prostate biopsy were excluded from the study.
- The following parameters were studied: frequency, age, reason for consultation,

appearance of the prostate on rectal examination, IPSS score, PSA level, ECBU results, serum creatinine, the results of the ultrasound, the histopathological nature of the surgical specimen, the treatment, the operative consequences.

- The creatinine level considered normal was less than 120 $\mu\text{mol/l}$,
- Normal total PSA level was less than 4ng/ml.
- The biopsy was performed when the PSA level was high
- The diagnosis of benign hypertrophy was made based on the presence of urinary disorders of the lower system, an enlarged prostate on rectal examination and renovesico-prostatic ultrasound, a normal PSA or a negative biopsy.
- Surgical treatment concerned patients with failure of medical treatment or cases of complicated BPH. Transvesical adenomectomy of the prostate according to FREYER HRYNTCHAK was performed on all our operated patients due to the unavailability of endoscopy in our department.
- A patient was considered cured when he no longer had voiding problems 6 months after the intervention and a post-micturition residual of less than 50 ml
- The data were processed and analyzed using Excel 2017 and IBM SPSS statistics 21 software. The significance threshold for statistical tests was set at $p \leq 0.05$ and the confidence intervals at 95%.

RESULTS

During the study period, 986 patient files (consulted and/or hospitalized) were collected, among which 124 were admitted for BPH, i.e. a frequency of 12.57%.

Age:

The most represented age group was between 61 and 70 years old.

The average age of the patients was 62 years \pm 12.5 years with extremes of 51 and 92 years.

Reason for Consultation:

Urinary frequency with 29% was the main reason for consultation. The details are recorded in Table I.

Table I: Distribution of patients according to reasons for consultation

Reason for consultation	Effective (n)	Percentage (%)
Pollakiuria	36	29,0
Urgency urinating	22	17,7
Dysuria	16	12,9
Acute bladder urine retention	11	8,9
Urinating burning	19	15,3

Reason for consultation	Effective (n)	Percentage (%)
Hématuria	7	5,6
Chronic retention of urine	13	10,5
Total	124	100,0

IPSS score: The majority of patients had a severe IPSS score between 20 and 35 (37.9%). The average score was 20 with extremes of 5 and 30 (Figure I).

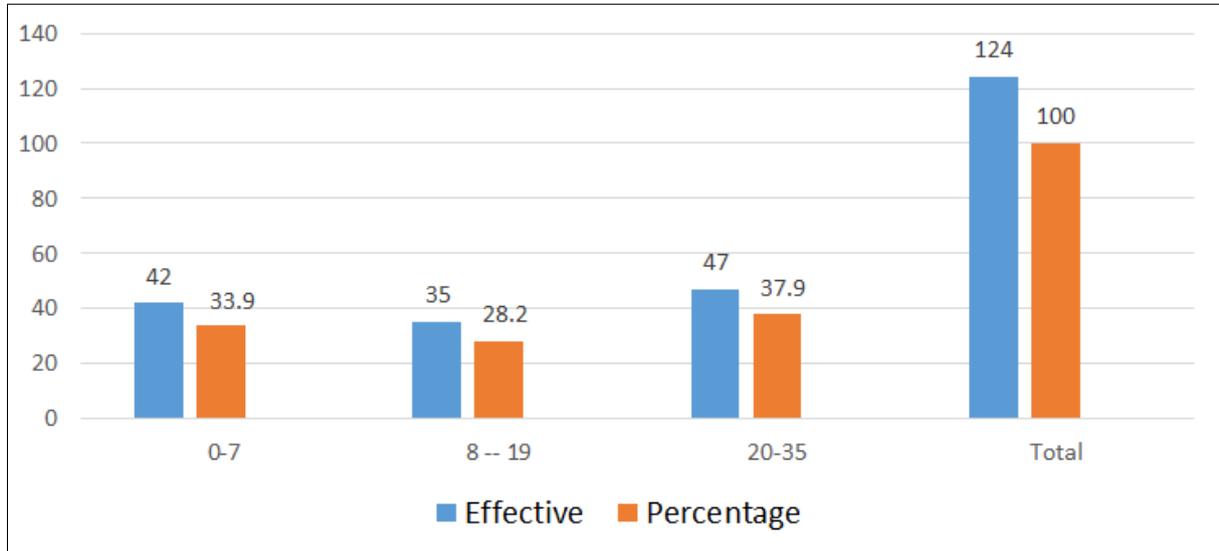


Figure I: IPSS Score

Pathological History:

Pathological history was found in 81 patients (65.3% of cases). It was mainly urinary schistosomiasis in 29.8% of cases followed by high blood pressure and diabetes in 17.7% and 12.1% of cases respectively.

Result of Physical Examination:

On physical examination, clinical anemia was found in 20.2% of patients, 18.5% had a transurethral bladder catheter and 16.1% of patients had an associated hydrocele.

On rectal examination the prostate was enlarged to a firm, painless size with a regular contour in 32.3% of cases and slightly enlarged in 27.4% of cases.

Paraclinical Aspects:

***Creatinine Level:**

It was elevated in 21 patients (16.93%, N=124).

***Cytobacteriological Examination of Urine:**

It was performed in all our patients, the results were positive in 37.1% of cases. The main germs isolated were Escherichia coli followed by Klebsiella pneumoniae with 15.3% and 9.7% respectively (Table II).

Table II: Distribution of patients according to the result of the cytbacteriological examination of urine (ECBU)

ECBU+ATB	Effective (n)	Percentage (%)
Négatif	78	62,9
E. Coli	19	15,3
k. pneumoniae	12	9,7
Proteus mirabilis	5	4,0
Enterococcus SP	7	5,6
staphylococcus aureus	3	2,4
Total	124	100

***PSA Level Measurement:**

The PSA level was normal in 66.9% of our patients, the average level was 5.5ng/ml with extremes of 0.7 to 51ng/ml (Figure II).

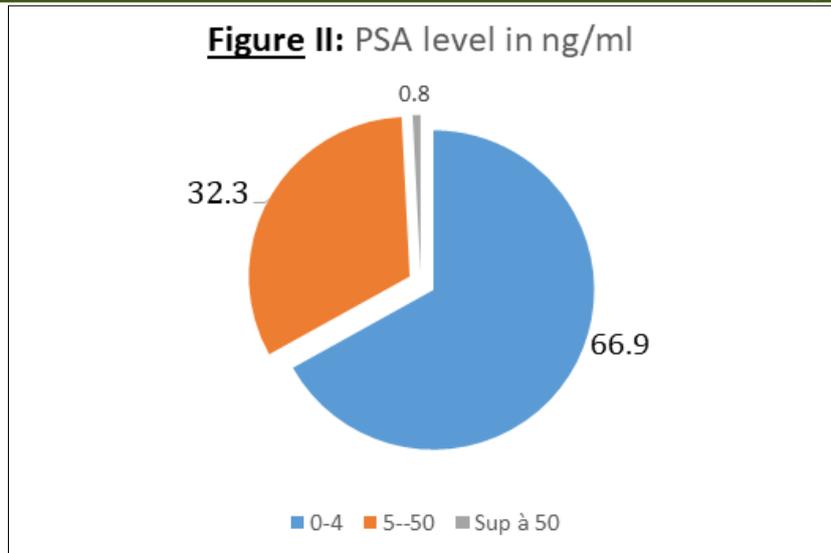


Figure II: Distribution of patients according to PSA level

Ultrasound results:

On ultrasound almost half of the patients (46%) had a prostate weight between 30 and 50 g. The average

weight of the prostate was 70.2g with extremes of 32 and 226 grams (Table III).

Table III: Distribution of patients according to prostate volume on ultrasound

Prostate volume on ultrasound in cm ³	Effective	Percentage
30-50	57	46,0
51-100	51	41,1
101 and over	16	12,9
Total	124	100,0

The post-void bladder residual was less than 50ml in 56.0% of patients and greater than 100ml in only 12.9% of cases (N=100). The average post-void bladder residual was 96.8 ml with extremes of 31 ml and 276 ml.

hyperplasia with PIN1 focus (low grade) in only 5.3% of cases (N=94).

Histopathological Condition of the Surgical Specimen:

The majority of our patients had pure adenofibromyomatous hyperplasia (59.6%). Hyperplasia associated with prostatitis was found in 35.1% and

Treatment Mode:

Medical treatment was done in 54.8% of patients and surgery in 45.2% of cases

Indications for Surgery:

Failure of medical treatment was the main indication for surgery found in 28.6% of patients. (Table IV)

Table IV: Distribution of patients according to operative indications

Operating Indications	Effective	Percentage
Failure of medical treatment	16	28,6
Hematuria on HBP	4	7,1
Bilateral uretero-hydronephrosis on HBP	9	16,1
Hernia on HBP	6	10,7
Bladder lithiasis on BPH	7	12,5
Fight bladder on HBP	10	17,9
Recurrent orchitis on HBP	4	7,1
Total	56	100,0

Therapeutically, trans-vesical adenomectomy of the prostate according to FREYER HRYNTCHAK was performed in all our operated patients. Drainage of the prebladder space (Retzius) was not performed in any of the patients. A double current silicone probe 22 inflated in the prostatic compartment before bladder

closure was kept until the bladder healed. Bladder irrigation with physiological serum was carried out until the urine cleared.

An associated hernia repair was performed in 10.7% of cases, a cystolithotomy and a diverticulum repair in 8.9 and 5.4% of cases, respectively.

The bladder catheter was kept for 5 to 10 days in 51.8% of patients.

The average duration was 8.2 days with extremes of 7 and 32 days.

Post-Operation: The postoperative course was simple in 78.6% of cases. (Figure III)

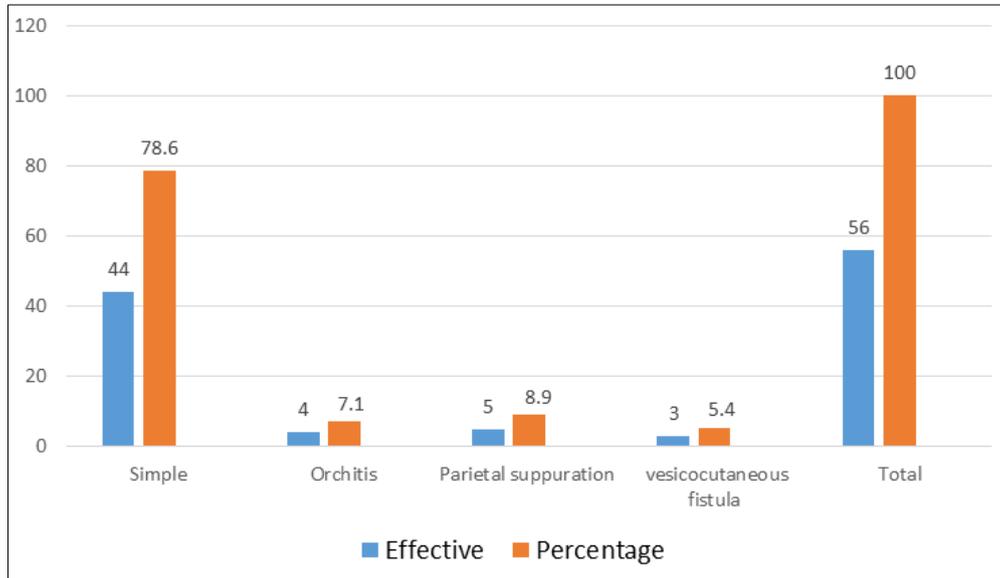


Figure III: Post-operation

The cases of parietal suppuration had been the subject of antibiotic therapy adapted to the sensitivity of the isolated germ to the collection of pus and to daily local care. Vesicocutaneous fistulas were managed with daily local care and transurethral bladder drainage until complete closure of the fistula. We recorded the death of a case of parietal suppuration in a picture of hypercreatinemia.

An improvement in the IPSS score was noted in 95.6% of patients receiving medical treatment after two months. At 3 months 96.77% of all patients (medical and surgical treatment) had normal urination. At 6 months they all had normal urination and renal function.

DISCUSSION

We collected 124 cases of prostatic hypertrophy out of 986 patient files, representing a frequency of 12.57%. Similar frequencies were reported by Odzebe .A.W.S [6], and Ozturk. A [12], with 15.7% and 18.5% respectively.

In the series by MK Madibulaya [14], and Diallo [11], higher frequencies were obtained, respectively 56% and 51.35%. In all these series, BPH surgery occupies the first place of surgical activity.

The average age of our patients was 62 years \pm 12.5 years with extremes of 51 and 92 years. Our result is similar to that of Odzebe .A.W.S *et al.*, who obtained an average age of 63.5% [6].

Higher average ages were found by Luhiriri. N.D [13], and S.I Koné [10], with 69.5 years and 70 years respectively.

In the literature, cases of urinary disorders linked to BPH have been found in subjects under 50 years of age [12].

Bladder irritation disorders were the most frequent reasons for consultation, led by urinary frequency in 29% of cases, followed by urgency in 17.7% of cases. A similar result was obtained by Sissoko. F *et al.*, [15], in whom pollakiuria was in the lead with 39.1% of cases.

In the Odzebe. A.W.S [6], and Halidou series. M [16], obstructive urinary disorders of the lower tract were the most frequent with respectively 58.5% and 43.90% of cases for dysuria, 40.8% and 56.10% for complete retention of bladder urine. These results show that our patients consult one rather at the bladder irritation stage.

The majority of patients (37.9%) had a severe IPSS score as in Luhiriri's series. N.D *et al.*, [13].

Pathological history was found in 81 patients (65.3% of cases). It was mainly urinary schistosomiasis in 29.8% of cases followed by high blood pressure and diabetes in 17.7% and 12.1% of cases respectively.

The rectal examination is the essential part of the physical examination. It made it possible to find an enlarged prostate of firm, painless size and regular contour in 32.3% of cases and slightly enlarged in 27.4% of cases. Similar characters were found in the Halidou series. M [16], and Odzebe. A.W.S [6].

Clinical anemia was found in 20.2% of patients, 18.5% had a transurethral bladder catheter and 16.1% of patients had an associated hydrocele.

Hypercreatinemia was observed in 16.93% of patients.

The cytobacteriological examination of urine was positive in 37.1% of cases and *Escherichia coli* was the main causative organism (15.3%) followed by *Klebsiella pneumoniae* with 9.7% of cases.

The PSA level was normal in 66.9% of our patients.

The elevation of the PSA level in our study can be explained by the wearing of a urinary catheter preoperatively (18.5% of patients) on the one hand and the presence of urinary infection (37.1% of cases) on the other hand.

Suprapubic ultrasound of the urinary tract was performed in all our patients. The average prostate weight was 70.2 g with an average post-void bladder residual of 96.8 ml. This average prostate weight was lower than that obtained by Luhiriri. N.D *et al.*, [13], (90 g) and higher than that found by Sissoko. F *et al.*, [15], (60g) The following complications were found: Fighting bladder (17.9%), bilateral uretero-hydronephrosis (16.1%), bladder lithiasis (12.5%).

The treatment of BPH includes several means, including abstention-monitoring, medical treatment and surgery [6].

Medical treatment was provided in 54.8% of our patients who had all received an alpha blocker, a 5 alpha reductase inhibitor was associated for prostates weighing more than 50 g.

Surgical treatment concerned 45.2% of patients and failure of medical treatment was the main indication for surgery found in 28.6% of patients. Trans-vesical adenectomy of the prostate according to FREYER HRYNTCHAK was the only surgical technique performed in all our operated patients. Odzebe .A.W.S *et al.*, [6], obtained a high rate of surgical treatment (75% of patients). Open surgery was the only one used due to the unavailability of endoscopy in our department. Kane in Senegal reports 75.3% of cases of HPB treated by open surgery [17].

On histopathological examination of the surgical specimen, the majority of our patients had pure adenofibromatous hyperplasia (59.6%).

The outcome after prostatic adenectomy was favorable with simple operative outcomes in 78.6% of cases. The average duration of postoperative bladder catheterization was 8.2 days. Complications were recorded in 21.42% of cases and suppuration of the operating wound was at the top of the complications (8.9%).

Our results are lower than those of Halidou [16], who reported 35.77% of post-adenectomy complications with a predominance of surgical wound suppuration which represented 14.63% of cases.

We recorded the death of a case of parietal suppuration in a picture of hypercreatinemia, Halidou [16], reports a mortality of 2.43% among operated patients.

CONCLUSION

Benign prostatic hypertrophy is the most common urological pathology in elderly men. It constitutes a major cause of lower urinary tract problems affecting the quality of life of patients. Its seriousness is linked to the speed of its treatment. Transvesical adenectomy of the prostate still remains a widely used therapeutic method for the management of this disease in our context.

Declaration of Interests: The authors declare that they have no conflicts of interest in relation to this article.

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