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The Role of Transurethral Resection of the Prostate (TURP) in the Surgical Management of Benign Prostatic Hyperplasia in the Urology Department of the Libreville University Hospital

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Abstract

Introduction: Prostate surgery accounts for a significant proportion of urological surgical procedures. With the advent of endoscopy, conventional surgery has gradually given way to these new techniques. In this study, we evaluate the role of TURP in the management of benign or malignant prostate enlargement in the urology department of the Libreville University Hospital. Patients and Methods: This was a retrospective, descriptive, single-center study conducted in the urology department of the Libreville University Hospital Center (CHUL) over the period from January 1, 2022, to December 31, 2024. Patients who underwent surgery for benign or malignant prostatic hypertrophy and had complete medical records were included. The parameters studied were age, reason for consultation, surgical indication, ultrasound prostate volume, approach, operating time, postoperative outcomes with the occurrence of any complications, quality of urination, and duration of postoperative urinary catheterization. Data analysis was performed by calculating means and frequencies. Results: During the study period, a total of 131 patients underwent surgery for prostatic hypertrophy, including 99 who underwent transvesical prostatectomy (75.57%) and 32 patients (24.43%) who underwent transurethral resection of the prostate. The average age of our patients was 65.1 years (range: 45 to 90 years). The average operating time for transvesical adenomectomy was 90 minutes, while it was 65 minutes for resection. The urinary catheter was kept in place for an average of 9 days in the case of adenomectomy and 2 days

in the case of resection. The average prostate volume was 98.47 g for conventional surgery and 37.25 g for endoscopy. Conclusion: Despite the many advantages of endoscopy compared to conventional surgery, the practice of TURP at the Libreville University Hospital, although effective, accounts for only a quarter of prostate surgery. A steady supply of endoscopic equipment would enable the continuation and widespread use of this prostate approach. Furthermore, equipping our facilities with lasers would enable us to perform high-volume prostate surgery by vaporization or enucleation, which would ultimately allow endoscopy to surpass open surgery, as is the case in the West and North Africa.

Keywords

Adenomectomy, Transurethral Resection, Prostate

1. Introduction

Benign prostatic hyperplasia and prostate cancer are conditions that account for a significant proportion of urological activity. Symptoms associated with these conditions are common reasons for consultation in urological emergency departments [1] [2]. The advent of endoscopy has greatly changed their surgical management [3]. Transurethral Resection of the Prostate (TURP) and other minimally invasive prostate surgery techniques, such as greenlight laser photovaporization, have virtually replaced conventional surgery in the West [4]. In Africa, with the gradual acquisition of endoscopy equipment by various countries, we are also seeing an increase in endoscopic activity in prostate surgery [5] [6]. Through this work, we want to take stock of the current place of prostate resection compared to conventional surgery in the management of patients operated on for benign prostatic hyperplasia.

2. Patients and Methods

Descriptive retrospective study, single-center, conducted in the urology department of the Libreville University Hospital Center (CHUL) over a period from January 2022 to December 2024. Patients who underwent surgery for benign prostatic hyperplasia and had complete medical records were included. Cases of prostate adenocarcinoma, incomplete records, and patients with contraindications to surgery were excluded.

Resection was performed using a Charrière 26 bipolar resector, combined with a 30˚ optical system, and 3000 cc saline bags were used for irrigation. The endoscopic approach was used for prostates weighing less than 80 g. Patients undergoing conventional surgery underwent transvesical adenomectomy. The surgical specimen was systematically sent for pathological analysis. A double-flow urinary catheter with continuous irrigation was left in place after surgery. The parameters studied were age, reason for consultation, surgical indication, prostate volume on

ultrasound, approach, operating time, length of hospital stay, occurrence of any complications, and quality of urination (good results if the patient was satisfied after urination and there was no dysuria or urinary leakage). The duration of urinary catheterization in the postoperative period. The descriptive analysis consisted of calculating absolute and relative frequencies for qualitative variables, and positioning and dispersion parameters for quantitative variables (mean, standard deviation). Statistical analysis was performed using SPSS version 19.0 software.

Limitations of the study: Retrospective, single-center study, no flow measurement performed in our patients.

3. Results

In total, during the period in question, 131 patients underwent surgery for prostatic hypertrophy, including 99 via transvesical adenomectomy (75.57%) and 32 patients (24.43%) via transurethral resection of the prostate. The average age was 65.1 years (range: 45 to 90 years) for patients undergoing TURP and 68.7 years for conventional surgery. The reasons for consultation (Table 1) were mainly pollakiuria, dysuria, and acute urinary retention, at 88%, 75%, and 55%, respectively. In all our patients, surgery was indicated due to failure of drug treatment, with 90% of patients (118) having an indwelling urinary catheter. The endoscopic approach was chosen for prostate volumes of less than 80 g. Pathological analysis of the surgical specimen revealed an adenoma in 104 patients (79.38%). The average operating time for transvesical adenomectomy was 90 minutes, compared with 65 minutes for resection. The urinary catheter was kept in place for an average of 9 days in the case of adenomectomy and 2 days in the case of resection. The average length of hospital stay was 8 days for adenomectomy and 3 days for resection. Postoperative complications during TURP accounted for 0.64%. In patients who underwent conventional surgery, complications accounted for 18.18% (Table 2). In both groups, urinary leakage was noted in 80% of patients.

Table 1. Initial urinary symptoms.

Symptom	Number of patients	Percentage
Dysuria	98	75%
Pollakiuria	115	88%
Hematuria	31	24%
Urinary retention	72	55%
Urgenturia	59	45%
Decreased urinary flow	50	38.6%

Table 2. Postoperative complications according to the surgical approach.

Complications	TURP	Open surgery
Hematuria	1	0
Parietal suppuration	0	15

Continued

Perforation of prostatic capsule	1	0
Ligation of the ureteral orifice	0	2
Balloon dislocation in the bladder	0	1
Percentage of complications	0.64%	18.18%

4. Discussion

RTUP and endoscopic laser enucleation of the prostate are now the gold standard in the surgical management of prostatic hypertrophy in Western countries [4] [7]. In Africa, this approach to the prostate is also gradually becoming established in clinical practice. In our study, prostate resection accounts for 24.43% of prostate surgery, a result similar to those found by Kamadjou in Cameroon [8], who published a series of 112 cases of TURP; Barry in Guinea Conakry found that TURP accounted for 20.18% of prostate surgery, while Kane in Senegal found 18.5% [5] [9]. In North Africa, TURP accounts for just over 50% of prostate surgery. Nouri [10] found 52.18% in Morocco. These results confirm that conventional surgery remains the main approach to prostate surgery in sub-Saharan Africa. This could be explained by the fact that the introduction of endoscopy is fairly recent [11] and that not all hospitals are equipped for it. Prostate volume is also a limiting factor, since for prostates larger than 80 g, transvesical adenomectomy was systematic, as lasers for prostate vaporization or endoscopic enucleation were not available. In the West, prostate volume is no longer a limitation to endoscopy with the advent of lasers [3] [12]; studies are currently focusing on comparing different types of lasers, but also on the future role of lasers with the emergence of new techniques (Rezum, Urolift, I-tind, Aquablation, Tulsa) [4]. The average age of patients is almost the same in both groups. Atim in Nigeria [13] found an average age of 65.5 years. Surgery was indicated in cases of failure of drug treatment or acute urinary retention. The initial symptoms were dominated by pollakiuria, dysuria, and acute urinary retention, which represented 88%, 75%, and 55% of the main reasons for consultation, respectively (**Table 1**). However, in reality, the interview revealed that many of these symptoms were present in the same patient. These data are consistent with the literature [14]. Prostate volume was greater than 80 g in 56.66% of patients (**Figure 1**), which explains the choice of conventional surgery in the majority of our patients. Some African authors, such as Monimbo Malamba [15] in the Democratic Republic of Congo, report a series of 152 cases of TURP using a bipolar resector, including prostates with volumes of up to 350 grams. The duration of surgery is shorter with endoscopy than with conventional surgery [3] [4]; our work confirms these data from the literature, since the average duration of surgery was 65 minutes for TURP and 90 minutes for transvesical adenomectomy. Among patients who underwent TURP, only 0.64% experienced complications (**Table 2**), such as massive hematuria, which required endoscopic hemostasis in the operating room for one patient, and perforation of the prostatic capsule for the second patient. Sissoko in Mali reports three cases of complications

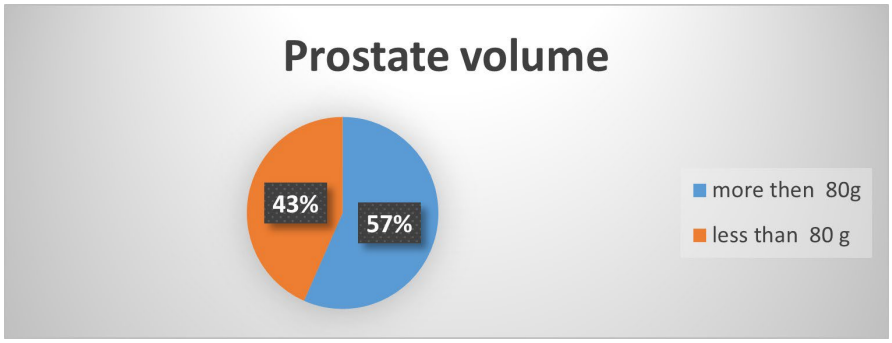

Figure 1. Prostate volume.

out of 22 TURPs, including two perforations of the prostatic capsule [16]. The complication rate during TURP is lower compared to transvesical adenomectomy, where there were 18.18% complications. Massandé *et al.* in Gabon found in 2017, in a cohort of 68 patients all operated on by transvesical adenomectomy, 28% complications [17]. The catheter was kept in place for an average of two days after resection. Kamadjou in Cameroon [8] found an average duration of 2.6 days; Kane in Senegal [9] found four days. The decision to remove the catheter is made when the urine becomes clear again, so the quality of intraoperative hemostasis is crucial for catheter removal. Sarwar in Iraq [18], using a cohort of 40 patients, demonstrated the feasibility and safety of catheter removal between postoperative days 0 and 1, with an average duration of 18.36 hours. The average duration of catheterization is much longer in conventional surgery due to the need to allow time for the bladder to heal. In our study, this average duration was 9 days. Bah in Guinea Conakry [19] found an average duration of 10 days. All of our patients experienced immediate urinary leakage after surgery. The outcome was favorable after 3 months, with only 1 case (0.76%) of incontinence noted. Massandé *et al.* in Gabon [17] found 1.5% incontinence, with satisfactory urination. These results confirm the effectiveness and reliability of surgical treatment regardless of the approach to the prostate.

5. Conclusion

Despite the many advantages of endoscopy compared to conventional surgery, the practice of TURP at the Libreville University Hospital, although effective, accounts for only a quarter of prostate surgery. A steady supply of endoscopic equipment would enable the continuation and widespread use of this prostate approach and, ultimately, its rise above transvesical prostate adenomectomy, as is the case in the West and North Africa.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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