

# Endoscopic Surgery for Benign Prostatic Hyperplasia in the Urology Department of the Pr Bocar Sidy SALL University Hospital of Kati

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**Abstract:** *Introduction:* the objective was to study the place of endoscopic surgery in the management of benign prostatic hyperplasia. *Materials and methods:* This was a retrospective and prospective descriptive study ranging from July 1, 2020 to November 30, 2021, i.e. 17 months, carried out in the urology department of the University hospital Pr Bocar Sidy Sall at Kati. Were included, all patients who had undergone surgical treatment of benign prostatic hyperplasia by endoscopic route during the study period. The data was entered and analyzed using software: Word 2019, Excel 2019 and SPSS version 25.0. Epi info version 3.53. *Result:* we collected 70 cases of endoscopic surgery for the management of benign prostatic hyperplasia in 17 months. The age group of 60-70 was the most represented with 42.9% of cases. Lower tract urinary symptoms were the most common reason for consultation, at 68.6%. We performed 21 cases of monopolar TURP, i.e. 30% of cases; 39 cases of bipolar TURP, i.e. in 55.7%; 10 cases of transurethral bipolar vaporization of the prostate or 14.3% of cases. The postoperative course was simple in 92.9% of cases. The probe was removed between D1 and D3 in 62.9% of cases. The average duration of hospitalization was 1.5 days with extremes of 1 and 15 days. *Conclusion:* Endoscopic surgery for benign prostatic hyperplasia remains the reference treatment in the surgical management of BPH. It is a technique that has proven its effectiveness. Bipolar transurethral vaporization of the prostate, monopolar and bipolar TURP have an important place in the management of BPH in our department.

**Keywords:** Endoscopic Surgery, BPH, Bipolar TURP, Vaporization

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## 1. Introduction

Transurethral resection of the prostate is the gold standard in surgery for benign prostatic hyperplasia. It allows a reduction in morbidity and mortality compared to open surgery [1]. Endoscopic resection or transurethral resection of the prostate (TURP) is a surgical procedure that consists of removing the adenoma in small shavings using a resector

introduced into the urethral canal [2]. Bipolar TURP is the main technological evolution of TURP by electric coagulation, concerns the development of resector delivering a bipolar electric current. These resectors were designed to be used in physiological saline, the objective being to eliminate the risk of TURP-syndrome [3]. Vaporization techniques have been around for almost a decade and more powerful lasers have recently become available. This has led to a slight resurgence

of interest in laser vaporization [4]. Bipolar Transurethral Vaporization of the Prostate (BTUVP) is a procedure that is performed using a continuous flow of irrigation-aspiration, under controlled pressure, of saline. Transurethral resection of the prostate (TURP) is the most common surgical procedure for the treatment of benign prostate obstruction. Bipolar TURP is increasingly performed compared to monopolar TURP [5]. The mortality of transurethral resection of the prostate (TURP) is between 1 and 2.5% depending on the series [6]. The frequency of prostate pathologies and that of the use of the three techniques in our department motivated us to carry out this study.

The objectives were to study the place of endoscopic surgery in the management of benign prostatic hyperplasia.

## 2. Materials and Methods

This was a retrospective and prospective descriptive study ranging from July 1, 2020 to November 30, 2021, i.e. 17 months, carried out in the urology department of the University hospital Pr Bocar Sidy Sall of Kati. Were included, all patients who had undergone surgical treatment of benign prostatic hyperplasia by endoscopic route during the study period. Three techniques are practiced in the urology department of the University hospital Pr Bocar Sidy Sall of Kati, namely: monopolar TURP, bipolar TURP and transurethral bipolar vaporization of the prostate (BTUVP).

The data was collected from medical records, the operating report register, the consultation register, and the hospitalization register. They were entered and analyzed using software: Word 2019, Excel 2019 and SPSS version 25.0. Epi info version 3.53. The statistical comparison test was the Chi2 with a risk  $p < 0.05\%$  considered to be statistically significant.

## 3. Results

During this study period, seventy-eight (78) patients were operated on for benign prostatic hypertrophy, seventy (70) patients underwent endoscopic surgery, i.e. 89.74%. The age group of 61-70 was the most represented with 42.9% (figure 1). Sixty-eight point six percent (68.6) of our patients consulted for lower urinary tract symptoms (Table 1). Bladder tumor was the most frequent associated pathology with 7.1% of cases. The majority of our patients had a prostate weight between 25-50 g or 54.3% (Table 2). Bipolar TURP was the most used technique, thirty-nine (39) patients benefited from it, i.e. 55.7% of cases (table 3).

The postoperative course was simple in 92.9% of cases (table 4). We recorded three (03) cases of postoperative anemia or 3.4% and two (02) cases of postoperative renal failure or 2.9%. The average hospital stay was 1.5 days with extremes ranging from 1 to 15 days (Table 5). The probe was removed between D1 and D3 in 62.9% of cases (Table 6).

*Table 1. Distribution of patients according to the reason for consultation.*

Reason for consultation	Effectifs	Percentage (%)
Lower urinary tract disorders	48	68,6
Acute retention of urine	17	24,3
Hematuria + Lower urinary tract disorders	4	5,7
Others	1	1,4
Total	70	100,0

Sixty-eight percent (68.6%) of our patients consulted for lower tract urinary disorders.

*Table 2. Distribution of patients according to prostate weight on ultrasound.*

Prostate weight on ultrasound	Effectifs	Percentage (%)
25-50g	38	54,3
50-75g	16	22,9
75-100g	8	11,4
Superior 100g	8	11,4
Total	70	100,0

The majority of our patients had a prostate weight between 25-50 g or 54.3%.

*Table 3. Distribution of patients by type of endoscopic surgery.*

Type of endoscopic surgery	Effectifs	Percentage (%)
Monopolar TURP	21	30,0
Bipolar TURP	39	55,7
Bipolar Vaporization	10	14,3
Total	70	100,0

We used the bipolar resection in 39 patients, i.e. 55.7% of cases.

*Table 4. Distribution of patients according to postoperative course.*

Postopérative course	Effectifs	Percentage (%)
Simple	65	92,9
Anamia	3	4,3

Postopérative course	Effectifs	Percentage (%)
Renal failure	2	2,9
Total	70	100,0

The postoperative course was simple in 92.9% of cases.

**Table 5.** Distribution of patients according to duration of hospitalization.

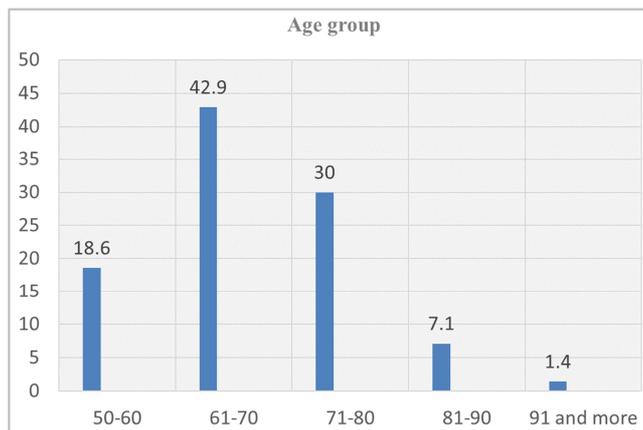
Duration of hospitalization	Effectifs	Percentage (%)
D1-D3	45	64,3
D4-D7	19	27,1
D7-D10	2	2,9
Superior D10	4	5,7
Total	70	100,0

The average duration of hospitalization was 1.5 days with extremes ranging from 1 to 15 days.

**Table 6.** Distribution of patients according to the time taken to remove the transurethral catheter.

Time to remove the transurethral catheter	Effectifs	Percentage (%)
D1-D3	44	62,9
D4-D7	20	28,6
D7-D10	5	7,1
Superior D10	1	1,4
Total	70	100,0

The probe was removed between D1 and D3 in 62.9% of cases.



The age group of 61-70 was the most represented with 42.9%.

**Figure 1.** Distribution of patients by age group.

## 4. Discussion

Although transurethral resection of the prostate is still the "gold standard" in the surgical management of benign prostatic hyperplasia, bipolar transurethral vaporization of the prostate, a procedure that has emerged over the past decade [7].

In our study, lower tract urinary disorders were the primary reason for consultation in 68.6% of cases with complete acute urinary retention in 24.3%. Acute complete urinary retention represented 31.1% in the study by Kassogue A *et al.* [8]. The majority of our patients had a prostate weight between 30-50 g or 54.3%

Eight (08) patients had a prostate volume greater than 100 ml. In the series by Osama Abdelwahab and *al.* [9], the average preoperative prostate volume was 59g.

Blood urea and creatinine were measured systematically in

all our patients. Thus, renal function was normal in 55 patients, or 78.6% of cases, and impaired in 15 patients, or 21.4% of cases, indicating associated functional renal failure. Renal function was normalized after surgery in all 15 patients.

We used monopolar resection in 21 patients, i.e. 30% of cases, bipolar resection in 39 patients, i.e. 55.7%, and transurethral bipolar vaporization of the prostate (BTUVP) in 10 patients, i.e. 14.3% of cases.

In our series, the postoperative course was simple in 92.9% of cases. We had no cases of TURP syndrome in the 21 patients operated with the monopolar resection. No case of TURP syndrome was also observed in the series by Falahatkar S and *al.* [10].

The frequency of this complication varies from 10 to 15% depending on the series, but the mortality remains low, around 0.2 to 0.8% [11]. On the other hand, with the bipolar current this risk is theoretically excluded with the use of physiological serum which is iso-osmolar [12].

Abdoulaye Ndiath and *al.* [13], in Dakar on 50 cases of bipolar resection found results deemed good in 96% of cases. In a study by Cornu JN and *al.* [14], bipolar TURP was associated with a lower rate of perioperative complications. Blood loss is usually low during TURP [15]. We did not record any cases of intraoperative hemorrhage or death. Tang Y and *al.* [16], in a comparative study between monopolar and bipolar TURP reported no significant difference between the two groups in the frequency of blood transfusions or late complications.

The urinary catheter was removed between D1 and D3 in 62.9% of cases. This result is comparable to that of Abdoulaye Ndiath *et al.* [13] where the probe was removed between D1 to D3 in 80% of cases. In the series by R. Rabii and *al.* [17] in Morocco, out of 504 cases of transurethral bipolar vaporization of the prostate (VBTUP), the probe was removed the same day in 100 cases for prostates weighing less than 40 g

and the following day postoperatively in 404 cases. The average duration of hospitalization was 1.5 days with extremes of 1 and 15 days. More than half of our patients were discharged between D1 and D3, i.e. 64.3%.

## 5. Conclusion

Endoscopic surgery for benign prostatic hyperplasia remains the reference treatment in the surgical management of BPH. It is a technique that has proven its effectiveness, it is less invasive and causes less morbidity than open surgery. It allows a delay of ablation and a short hospital stay. Transurethral bipolar vaporization of the prostate is a simple, reproducible technique that makes it easy to adapt the gesture of the classic TURP. With bipolar TURP and bipolar transurethral vaporization of the prostate, we are no longer limited by prostate weight. This study allowed us to see that morbidity and mortality during TURP is not important in our practice. These results are very encouraging and should encourage us to develop the use of this technique in the management of benign prostatic hyperplasia to the delight of patients.

## 6. Recommendation

Bipolar transurethral resection of prostate is a common practice in our department. Complications are rare, decreases the duration of hospitalization and the port of the probe. Post-operative follow-up is simple. Bipolar transurethral resection of the prostate and bipolar vaporization of the prostate are minimally invasive surgeries for benign prostatic hyperplasia with satisfactory results.

## Conflicts of Interest

All the authors declare that they have no conflict of interest.

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