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Original Research Article

Postoperative Complications of Transvesical Adenomectomy of the Prostate in the Urology Department of the Centre Hospitalier Universitaire GABRIEL TOURE in Bamako

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Abstract: ***Objective*:** To study postoperative complications of transvesical adenomectomy of the prostate in the urology department of the Gabriel TOURE University Hospital in Bamako. ***Patients and Methods*:** This was a prospective, cross-sectional, descriptive study conducted over 12 months, from December 1, 2022 to November 30, 2023. It covered all patients admitted, operated on and followed up in the Urology Department of CHU Gabriel Touré for benign prostatic hypertrophy and having a complete medical record. ***Results*:** Out of 102 patients operated on for prostate adenoma in the urology department of CHU Gabriel Touré, 26 cases of postoperative complications (POC) were recorded, representing a frequency of 25.49%. The average age of our patients was 71.38 years. Urinary bilharziasis was the main urological antecedent in 50% of patients, while inguinal hernia repair was the most common surgical antecedent, accounting for 27% of cases. Pollakiuria was the main reason for consultation (46.15%). Urinary tract infection was found in 57.69% of patients, with Escherichia coli the main germ involved (34.61%). The mean ultrasound prostate weight was 63.82g, with a mean total PSA level of 2.98ng/ml. Preoperative catheterization was strongly associated with postoperative complications (37.21%). The main indication for surgery was complicated BPH (infectious complication: 38.46%). The average duration of bladder irrigation was 2.3 days. Parietal suppuration was the main postoperative complication (30.77%). Postoperative indwelling catheterization lasted an average of 16 days. The average hospital stay was 7.3 days for patients with CPO versus 5 days for other patients. The mortality rate was estimated at 3.84%. ***Conclusion***: In our context, transvesical adenomectomy of the prostate is still the most common surgical treatment for benign prostatic hyperplasia. Postoperative complications are dominated by parietal suppuration.

Keywords: Adenomectomy, postoperative complications, transvesical.

INTRODUCTION

Benign prostatic hyperplasia (BPH) is an age-related pathology. In France, more than a million men aged between 50 and 80 are affected by this pathology. The risk of BPH-related surgery beyond the age of 50 is estimated at between 20-30% [1].

It currently accounts for almost 70,000 operations each year in France. Despite the emergence of new, less invasive techniques, monopolar transurethral

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resection of the prostate (TURP) remains the reference treatment for the surgical management of benign prostatic hypertrophy that is complicated or resistant to well-managed medical treatment [2].

However, in our region, TURP is rarely used, not only because of the inadequacy of the technical platform, but also because of the size of the prostatic hypertrophy and the frequency of associated pathologies (bladder diverticulum, large bladder lithiasis, inguinal hernia). In our country, transvesical adenomectomy of the prostate remains widely practised, despite relatively frequent complications such as haemorrhage, surgical site infection and even decubitus complications [3].

PATIENTS AND METHODS

This was a prospective, cross-sectional, descriptive study conducted over 12 months, from December 1, 2022 to November 30, 2023. It included all patients admitted, operated on and followed up in the Urology Department of CHU Gabriel Touré for benign prostatic hypertrophy during the study period and having a complete medical record. The diagnosis of prostatic hypertrophy was made by digital rectal examination. A complete preoperative workup was performed in all patients. The creatinine level considered normal was that below 120 µmol/l, the normal total PSA level below 4ng/ml.

Patients were hospitalized the day before surgery, and all received intraoperative antibiotic prophylaxis with Ceftriaxone 2g. The skin incision was median subumbilical or transverse pfannenstiel. Haemostasis of the adenomectomy site was achieved by X-stitches at 5 and 7 o'clock, with a posterior edge suture if necessary. A 22 or 24 hinge double-stream silicone catheter was left in place with an inflated balloon in the prostatic cavity. Placement of a drain in the Retzius space was optional. The adenomectomy specimen was systematically sent to the pathology department. Post-operative follow-up was daily until discharge. Patients were reviewed at 1 and 3 months. Bladder irrigation was maintained until urine clearance. The various variables were processed using SPSS Statistics software version 20.0.

RESULTS

We collected 26 cases of postoperative complications out of 102 transvesical adenomectomies of the prostate in the urology department of CHU Gabriel Touré, a frequency of 25.49%.

The average age of our patients was 71.38 years, with extremes of 58 and 87 years. The most common age group was 71-80 years (46.15%). Urinary bilharziasis was the main urological antecedent found in 50% of patients, while inguinal hernia repair was the most common surgical antecedent, accounting for 27% of cases.

Pollakiuria was the main reason for consultation, accounting for 46.15% of cases, followed by dysuria (30.8%). Urinary tract infection was found in 57.69% of patients, with Escherichia coli the main causative germ (34.61%) (Fig 1).

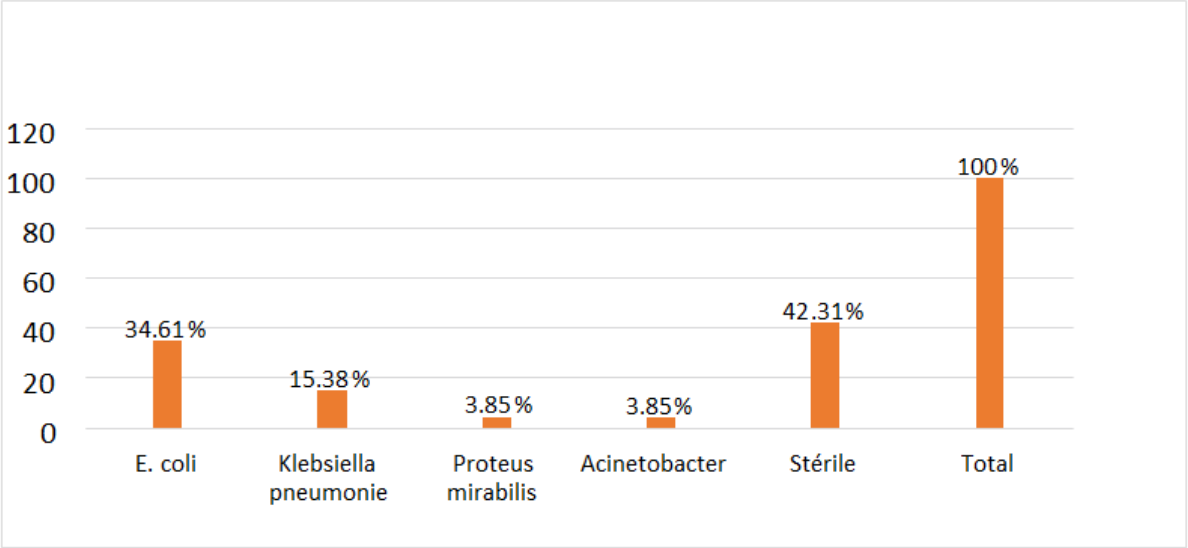

Fig 1: Distribution of patients according to germs found on ECBU

Mean prostate weight at ultrasound was 63.82g, with extremes of 32g and 184g. 61.53% of patients weighed between 30 and 60g.

The mean total PSA level was 2.98ng/ml, with extremes of 0.3ng/ml and 7.5ng/ml. It was normal (below 4ng/ml) in 92.31% of patients.

The proportion of patients who had worn a urinary catheter preoperatively was more likely to experience postoperative complications (37.21%) than other patients (Fig 2).

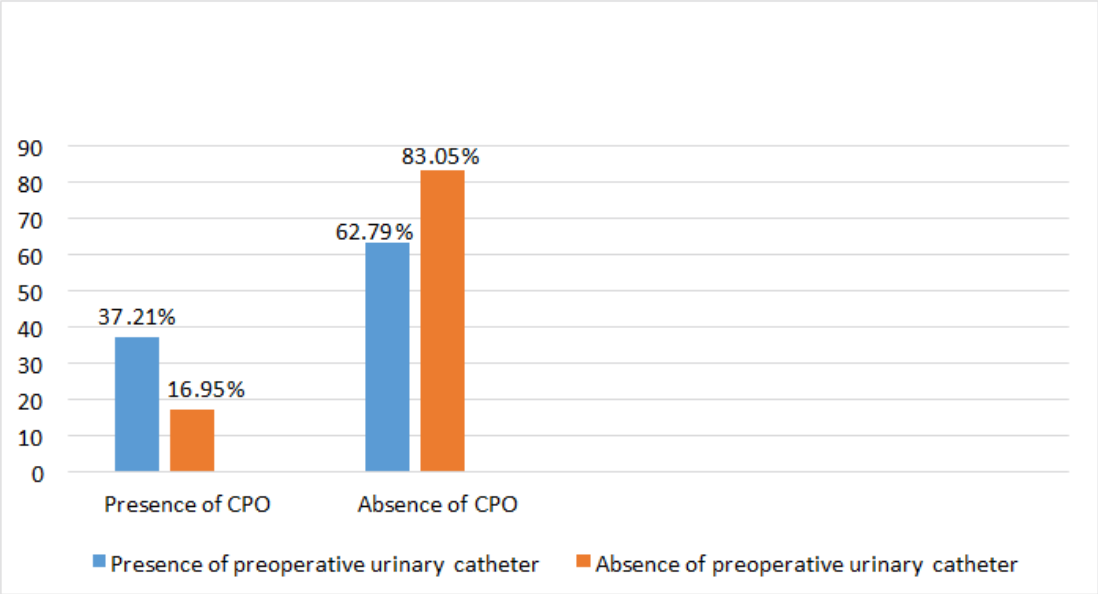

Fig 2: Post-operative complications according to pre-operative urinary catheter size

The indications for surgery were as follows:

- Complicated BPH: 96.15%, recurrent urinary tract infection was the main indication for surgery (38.46%).
- Failure of medical treatment: 3.85%

Spinal anaesthesia was used in 88.46% of our patients.

During hospitalization, 15.38% of patients had received a transfusion of 2 to 4 units of iso rhesus blood.

The average duration of bladder irrigation was 2.3 days, with extremes of 1 day and 6 days. Parietal suppuration was the main postoperative complication (30.77%) Fig 3.

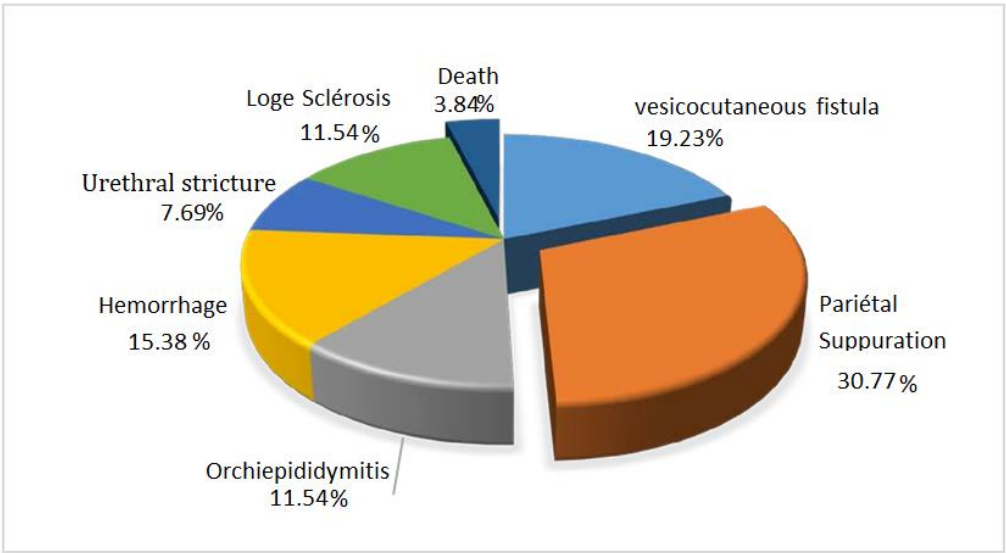

Fig 3: Types of complications

The dual-current silicone catheter inserted during the operation was left in place for an average of 16 days, with extremes of 8 and 27 days.

The majority of patients were hospitalized for 6-10 days (69.23%), with an average length of stay of 7.3 days for patients with CPO versus 5 days for other patients.

Complications lasted on average 10.12 months, with extremes of 1 and 27 months. The mortality rate was estimated at 3.84%.

DISCUSSION

Postoperative complications occurred in 25.49% of our patients. Different results were obtained in certain series, notably those of R. Tore Sanni *et al*., in Benin [4] (36.3%), P. A Fall *et al*., in Senegal [5] (68.2%), Ghoundale O *et al*., [6] in Morocco (10%). This great diversity in the frequency of post-transvesical adenomectomy complications of the prostate would appear to be linked, on the one hand, to the diversity in the level of technical facilities at the time of the study and, on the other hand, to the use of different methodologies.

The average age of our patients was 71.38 years, with extremes of 58 and 87 years. Different mean ages were obtained by R. Tore Sanni *et al*., [4] (68.4 years), Rimtebaye K *et al*., (64.18 years) [7].

Our mean age was comparable to that of V. Misrai *et al*., (71.4 ± 9.2 years) [8]. All these data clearly show that benign prostatic hyperplasia remains a disease of the elderly. Urinary bilharziasis was the main urological antecedent found in 50% of patients, while inguinal hernia repair was the most common surgical antecedent. In other studies, inguinal hernia was also the most common surgical history [3, 5]. According to these authors, intra-abdominal hyperpressure exerted during micturition in dysuric patients is the cause.

Urinary tract infection was found in 57.69% of our patients, and Escherichia coli was the main causative germ (34.61%). Different results were found by other authors: Hounnasso. P. P *et al*., [6] in Benin (70%), Massandé Mouyendi J *et al*., [1] in Gabon (16.2%). According to Ikuerowo *et al*., [9], the prolonged use of urinary catheters is one of the reasons for the high rate of urinary tract infection.

The mean ultrasound prostate weight was 63.82g, with extremes of 32g and 184g. This mean weight was lower than that found by Luhiriri N. D, *et al*., [10] (90g), G. Botcho *et al*., [3] (104.7g). The mean total PSA level was 2.98ng/ml, with extremes of 0.3ng/ml and 7.5ng/ml. According to G. Botcho *et al*., [3], the greater the prostatic volume, the more PSA is produced by the prostatic epithelium, and vice versa. The proportion of patients who wore a urinary catheter preoperatively was more likely to suffer postoperative complications (37.21%) than other patients. Our results concurred with those of some authors, who suggest that urinary tract infection is proportional to the duration of preoperative catheterization [11, 12].

The main indication for surgery in our patients was complicated BPH (96.15%), particularly recurrent urinary tract infection (38.46%). In the series by G. Botcho *et al.*, [3], recurrent acute retention of bladder urine accounted for 48.68%. The average duration of bladder irrigation was 2.3 days, with extremes of 1 day and 6 days. This figure was 2.5 days in the series by R. Tore Sanni *et al.*, [4].

Parietal suppuration was the main postoperative complication with 30.77% followed by vesico-cutaneous fistula (19.23%).

Similar results were obtained in some series, notably that of Diallo M. B *et al*., [12] (parietal suppuration: 35,40%, vesico-cutaneous fistula: 60%); P. A. Fall *et al*., [5] (wall abscess: 19%, vesico-cutaneous fistula: 15%); R. Tore Sanni et al [4] (parietal suppuration: 8.1%, vesico-cutaneous fistula: 5.6%).

As Escherichia Coli was the germ most frequently found in our series, parietal suppuration could be related to prolonged catheter use, a source of urinary tract infection. However, other factors could also be involved, such as lack of asepsis during dressing or poor patient hygiene. The most frequent urological antecedent being urinary bilharziasis (50% of patients), bladder calcification linked to bilharzian cystitis could partly explain the frequency of vesico-cutaneous fistulas in our series.

The dual-current silicone catheter inserted during the operation was left in place for an average of 16 days, with extremes of 8 and 27 days. The mean time to postoperative catheter insertion in our study was longer than in other series, notably P. A. Fall *et al*., [5] (8 days), Diallo. M. B *et al*., [12]: (7 days).

It was inferior to that obtained by G. Botcho *et al*., whose mean duration was 6 weeks [3]. In the series by J.A. Long *et al*., [13], catheter removal was performed in 70% of patients by day 2.

The relatively long average postoperative catheter wearing time in our series (16 days) may be linked to the high frequency of vesico-cutaneous fistulas, which close spontaneously after prolonged catheterization.

The average length of hospital stay was 7.3 days for patients with a C.P.O. versus 5 days for other patients. R. Tore Sanni [5] and P. A. Fall [4] obtained longer hospital stays of 10 days and 14.6 days respectively. The mortality rate was estimated at 3.84%. Different rates were found in some series: P. A. Fall *et al*., [5] (2.14%), G. Botcho *et al.*, [3] (2,63%).

CONCLUSION

Transvesical adenomectomy of the prostate remains a widely used therapeutic modality in the surgical management of benign prostatic hypertrophy in Black Africa. Postoperative complications are dominated by parietal suppuration. Men aged between 71 and 80, with an indwelling urethral catheter preoperatively, are most often affected by postoperative

complications of transvesical adenomectomy of the prostate.

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

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