

Research Article

Open Retropubic Radical Prostatectomy: Experience in Cameroon

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Abstract

Introduction: Prostate cancer is a slow-growing hormone-dependent malignant tumor that can have negative impacts at short or long term. There are many treatment options for localized prostate cancer, but most of them are of limited access in sub-Saharan Africa. Open retropubic radical prostatectomy presents a challenge in terms of early diagnosis of prostate cancer. The aim of our study was to share our experience in the field and to report patient outcomes on short and medium term. **Methodology:** Our study was retrospective, covering all patients who underwent open retropubic radical prostatectomy in the urology departments of Yaounde Central Hospital, Douala General Hospital, and Catholic Hospital of the Love of Our Lady in Douala over a 10-year period (2013-2023). We studied the progression of the disease and quality of life after surgery. This assessment was mainly carried out using validated self-administered questionnaires, the ICIQ (International Consultation Incontinence Questionnaire) for urinary incontinence and the IIEF 5 (International Index of Erectile Function) for erectile dysfunction. **Results:** We selected five patients who had undergone Open Retropubic Radical Prostatectomy (ORRP). The average age was 62.8 years. Total PSA was the postoperative biologic follow-up parameter. One patient had received hormone therapy and salvage radiotherapy, while two others were in remission. In terms of lower urinary function, three patients had urinary incontinence (UI). All of these disorders were treated with appropriate perineal physiotherapy and an anticholinergic agent. In terms of erectile function, three patients had erectile dysfunction. Anastomotic site stenosis was found in three patients. **Conclusion:** Surgical treatment of localized prostate cancer allows for cancer control and, in some cases, sexual and urinary function impairment is observed. We were thus able to evaluate the short- and medium-term cancer and functional outcomes in patients who underwent ORRP in two cities in Cameroon.

Keywords

Prostate Cancer, Radical Prostatectomy, Retropubic, Cameroon

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1. Introduction

Prostate cancer is a slow growing hormone sensitive malignant tumour acting at the hypothalamic-pituitary-gonadal axis, which may have negative outcomes at short term or long term. This is a public health concern in our country and in the world thus the increase in the number of scientific publications on this health concern [1]. It is classified as the most common cancer among men of more than 50 years of age with a higher incidence amongst men older than 65 years) [2]; worldwide, it is the second most common cancer and fifth leading cause of cancer death [3]. Ferley et al. estimated approximately 57,048 deaths associated to prostate cancer by 2030, representing a 104% rise compared to previous years [4]. However, East Africa has the highest incidence of prostate cancer with 10.7-38.1/100 000 men while West Africa has the lowest incidence with 4.7-19.8/100 000 men [5]. In

Cameroon, a study done by Engbang *et al.* had prostate cancer (81.42%) as the most common urogenital cancer [6]. There are several treatment options for localised prostate cancer other than Open Radical Prostatectomy (ORP) which are not often used in sub-Saharan Africa due to infrastructural and financial limitations [7]. More recently, there was a meta-analysis on the assessment of the overall and prostate cancer-specific mortality among patients treated for clinically-localized prostate cancer revealed that there was a higher mortality rate among patients treated via radiotherapy rather than via surgery [8]. Although the practice of open retropubic radical prostatectomy represent a challenge in our setting due to late diagnosis [9], we decided to assess the practice of this procedure in three hospitals in Cameroon.

Table 1. Distribution of risk population evolution according to D'AMICO.

Classification of D'AMICO	Frequency (n=05)
Intermediate	02
High risk	03

Table 2. Distribution of rate of conservation of Nerve bands.

Conservation of nerve bands	Frequency
Bilaterally	2
Unilaterally	1
None	2

Table 3. Histopathogy results of the tissue collected during prostatectomy.

Pre operative Histopathology	Post-operative Histopathology
ADK Gleason 2+3	ADK Gleason 3+4 pT2cNxM0 R0
Lesion PIN 3	ADK Gleason 4+4 pT2NxMx
ADK Gleason 3+3	ADK Gleason 3+3
ADK Gleason 3+3	Prostate adenomyoma
ADK Gleason 3+4	ADK Gleason 3+3 pT2bN0M0 R0

2. Methodology

This is a longitudinal observational study with a retrospec-

tive and prospective collection data phase. This study was carried out in the urology department of the Central Hospital of Yaounde (CHY), Douala General Hospital (DGH) and Catholic Hospital of the Love of Our Lady (CHLOL). This

was done during six months, from January 1st to June 30th, 2023. The study population were patients with localised prostate cancer who had undergone open retropubic radical prostatectomy during our study period. The inclusion criteria were patients with pre-operative biopsy results, patients with a total PSA at least three months after the surgery, patients with the histopathological result of the surgical specimen, patient who accepted to take part in the study. The exclusion criteria were patients who were lost to follow up. Data collection was retrospective and prospective. We worked on 17 registers of operative report and 248 medical files from the urology departments of the different hospitals. A structured paper was made to properly collected all the data needed. After reviewing the post operative follow up of the patients from their medical file, these patients were met and given questionnaires to answer. There were 10 patients who had undergone open retropubic radical prostatectomy (ORRP) and 5 patients were selected based on our inclusion criteria. The data collected were socio-demographic, past family history and risk factors, clinical data, per-operative data and para-clinical data. Data collected was recorded in Excel software and analyzed with EPI info.

Results

In this study, there were 5 cases. The mean age of the patients was 62.8 years with 58 years and 68 years as minimum and maximum age respectively. There were 2 out of 5 cases

(40%) with family history of adenocarcinoma.

Lower urinary tract symptoms were the most common reasons of consultation with 60% (3 cases out of 5) followed by patients who came for routine systematic screening (20%) and PSA velocity (20%). The average total PSA was 35.86 ng/ml with 10.9 ng/ml and 93.24 ng/ml as minimum and maximum total PSA respectively. In this study, the Gleason scores were 4; 5; 6; 7 (3+4); 8 (4+4). Using the Amico risk classification for prostate cancer, 60% of the patients were at high risk while 40% were at intermediate risk.

Lymph node dissection was carried out in 2 cases and neurovascular bundle preservation was done bilaterally in 2 cases and unilaterally in 1 case. There was a persistency in total PSA after 12 months of management even with radiotherapy in only one case. There were 3 patients on remission. All the cases had good resection margins. One of the cases did not have residual cancer while the other cases were located at the prostate. There were 3 cases stenosis of the anastomotic site as post operative complications which occurred at day 35, 3rd month and 4th month after the surgery. This complication was managed by urethral dilation with a dilator in 2 cases and by endoscopic cervical incision in the other case. 60% of cases had severe erectile dysfunction. Erectile function of a patient was not evaluated because he was on intermittent hormonal therapy for about 5 months. Most of the patients had urinary incontinence (60%) after the surgery.

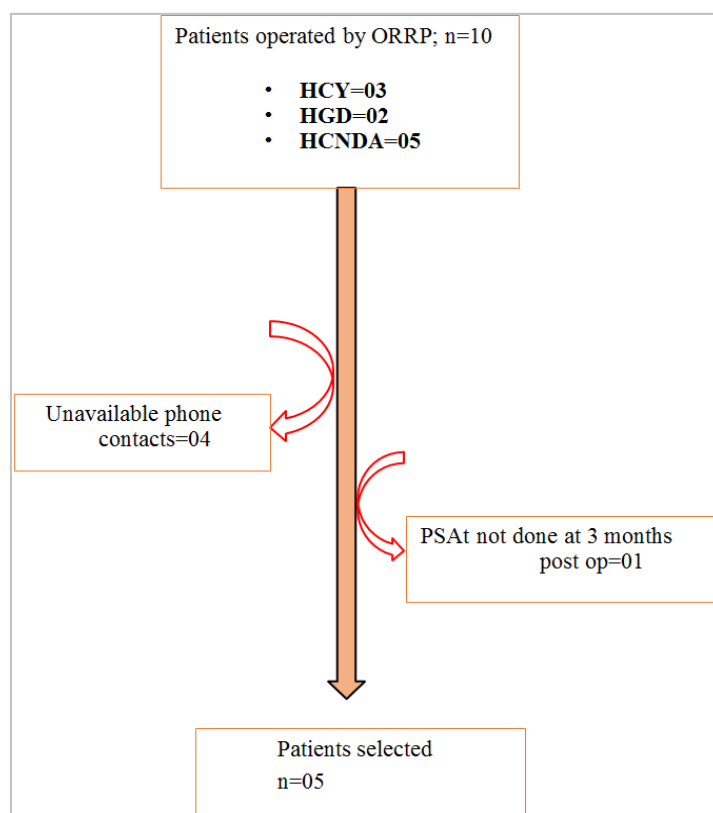


Figure 1. Diagram flow of the study population.

3. Discussion

In this study, there was one patient without malignancy in the sample collected during prostate resection. This result was similar to the literature review of Nikolas in 2022 which revealed an incidence between 0.07% and 1.3% of prostate carcinoma undetected after prostate resection [10]. Also, the high prostate volume was one of the contributing factors of this phenomenon with a volume of 115 ml in our case. A few studies describe the phenomenon of <<cancer on its way of extinction>> among a population without adenoma carcinoma with an incidence of 0.2% to 4% even with skilful sampling. It was noted that no patient had recurrence of the malignancy although the follow up was not regular [11, 12].

In this study, Total PSA contributed to the post-operative follow up of the patients. There was one case with a persistent high PSA 6 months after ORRP (4.41-7.82ng/ml) which led to management with radiotherapy. This management was done based on the directives giving to recover from recurrent prostate cancer after a previous therapy with curative aims [12]. A salvage radiotherapy was done with a starting value of 4.41 ng/ml followed by a salvage hormonal therapy. This finding was different from that of Taguchi *et al.* which had better results for early radiotherapy (PSA < 0.5 ng/ml) as compared to late radiotherapy (PSA > 0.5 ng/ml). Additionally, the study of Abugharib showed a correlation between the rise of PSA total level before radiotherapy and survival with no biochemical relapse with a PSA level at 0.2 ng/ml [13, 14].

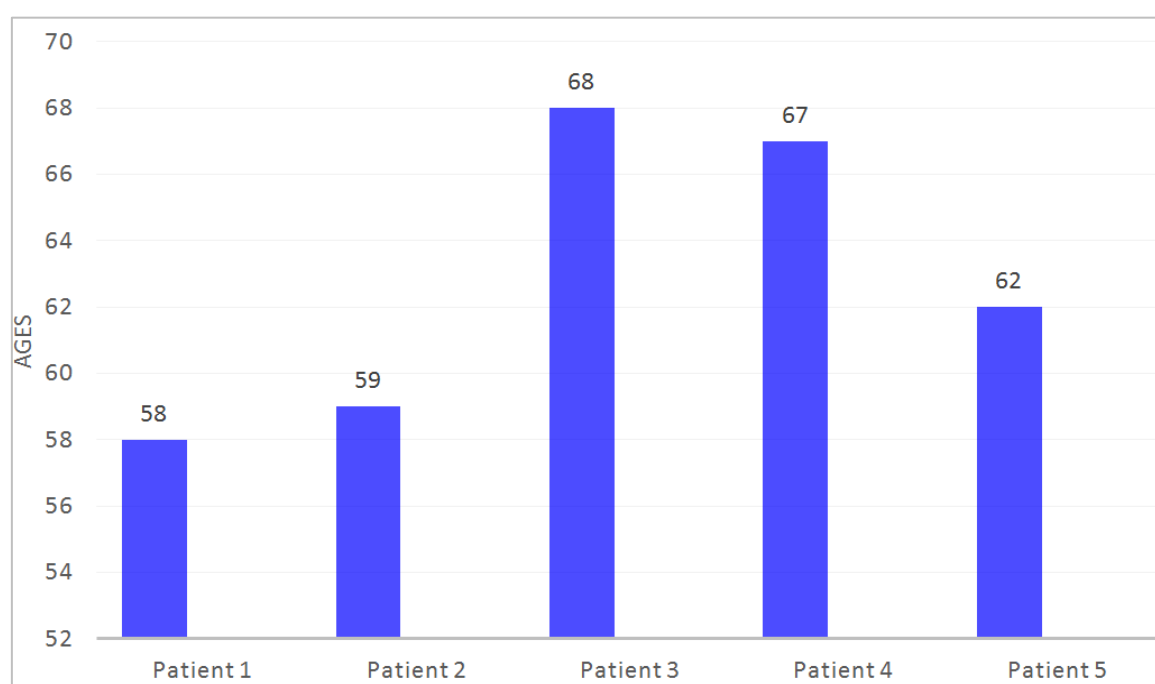


Figure 2. Age distribution of participants.

There was a case in this study on intermittent hormonal therapy with cyproterone acetate; this management was similar to that of Shipley in 2017 which revealed that combining an anti-androgen therapy (bicalutamide 50 mg) for 24 months with radiotherapy increased the rate of survival, a lower incidence of metastatic prostate cancer (14.5%) and a lower death rate (5.8%). Hormonal therapy combined with Salvage radiotherapy improved by 40-60% the evolution without metastasis [15, 16], which confirms the findings in our study on the patient who had the same therapy. However, hormonal therapy lasting for at least 3 months did not demonstrate an improvement in the survival of the patients [16].

In this study, there were 2 cases on remission without being on any complementary therapy. This result is similar to that of three controlled trials and a meta-analysis whereby there was no difference in the survival of patients treated with a com-

plementary therapy and those treated with salvage radiotherapy [17, 18].

60% of the cases had severe erectile dysfunction after the surgery which was similar to the results of Amrani in Morocco with a rate of erectile dysfunction that could go up to 90% depending on the approach and surgical experience [19]. However, the occurrence of erectile dysfunction might be due to traction or compression of pelvic structures during surgery [20]. The rate of use of intra cavernous injections was at 40%, similar to the result of Maillard in France and Amrani in Morocco [19]. There were 4 cases with severe urinary tract infections which was similar to the result of Bauer whereby urinary tract infections were seen in 2% of patients a year after prostate resection [20]. All the cases in this study had undergone pelvic floor muscles physiotherapy after surgery which was in line with the approach in numerous studies whereby it

was the first plan of non-invasive management during the first 12 months of the surgery [21]. The principle behind most pelvic re-education managements was the oxygenation of the

cavernous vein to prevent fibrosis and avoid irreversible structural changes [21].

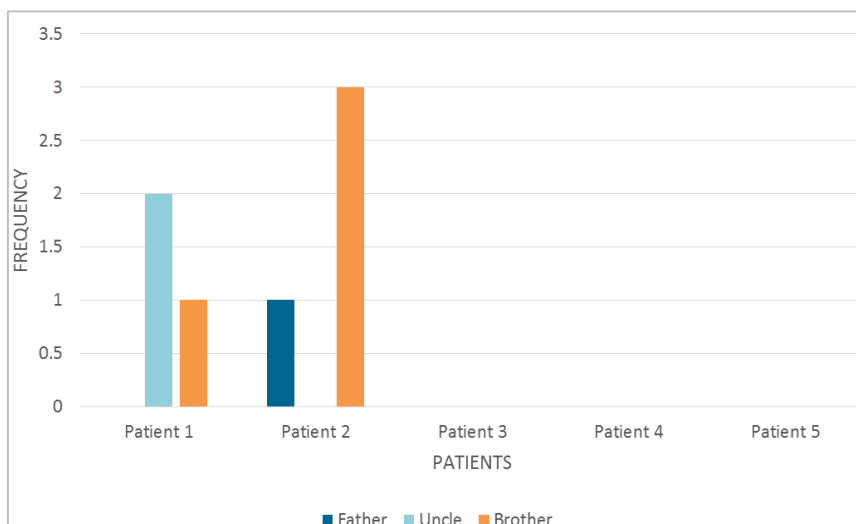


Figure 3. Distribution of family history of prostate cancer of each participant.

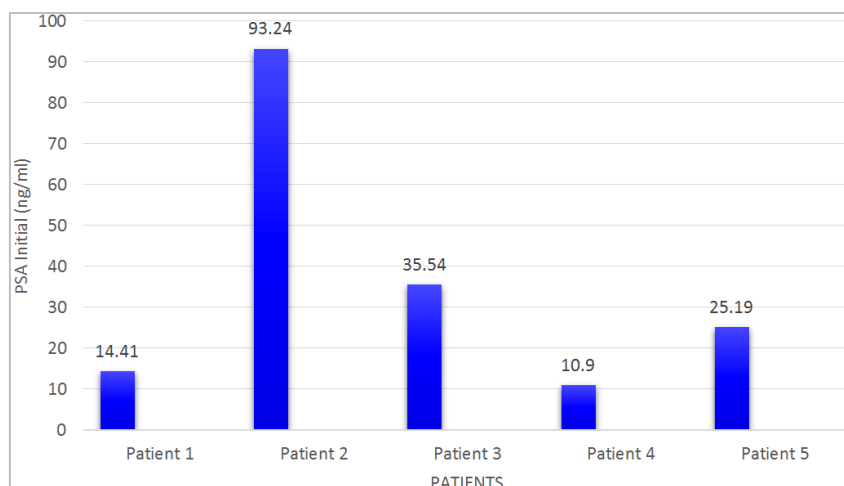


Figure 4. PSA initial value of the participants.

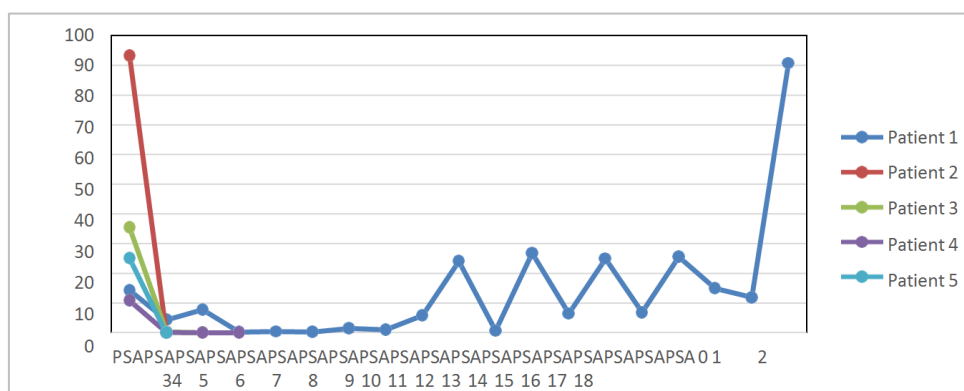


Figure 5. PSA total values of each patient after surgery.

In this study, there were 3 cases of stenosis of anastomotic site, which occurred 35 days, 3 months and 4 months after the surgery and was managed by urethral dilation in 2 cases and by endoscopic incision in the other case. In a small cohort among post prostatectomy patients, Park *et al.* had succeeded in the majority of patients (93%) who had undergone urethral dilation with intermittent catheterisation of 3 months [22]. This is the best option for motivated patients because auto dilation requires a lot of tolerance and observation and many patients tend to stop this therapy probably due to the negative impact on their life quality [23]. In a previous report on 52 patients with bladder neck contracture undergoing endoscopic management, 42% of the patients needed at most one new procedure while 11.5% needed more than two surgical procedures [24].

4. Conclusion

ORRP was carried out among patients with localized prostate cancer who were at a high risk of recurrence. The long-term oncologic results ranged from total remission to the persistence of total PSA. Some complications found in our setting included urinary incontinence that was persistent even with medical management, erectile dysfunction and bladder neck contracture.

Abbreviations

ORRP	Open Radical Retropubic Prostatectomy
PSA	Prostate specific Antigen
ICIQ	International Consultation Incontinence Questionnaire
IIEF5	International Index of Erectile Function
ADK	Adenocarcinoma

Author Contributions

Epoupa Ngalle Frantz Guy: Conceptualization, Resources, Writing – original draft, Writing – review & editing

Mekeme Mekeme Junior Barthelemy: Methodology, Supervision

Fouda Jean Cedrick: Formal analysis, Validation

Wafo Menewa Philippe Dorcas: Data curation, Investigation, Funding acquisition, Software

Ngandeu Jerry Marcel: Visualization

Kpanou Yellem Achille: Formal analysis

Kuwong Mbonyam Patrick: Supervision

Fouda Pierre Joseph: Supervision, Project administration

Conflicts of Interest

We had no conflicts of interest.

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