

Assessment of the rate of practice of endoscopic urological surgery in three selected healthcare facilities in Douala, Cameroon

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Background: Endourology is a minimally invasive surgical procedure in the field of urology, which has many benefits. There is an increase in the practice of endoscopic urological surgery in Africa. The aim of this research was to assess the practice of endoscopic urological surgery in three selected hospitals in Douala.

Methods: This was a retrospective descriptive study. This study was carried out among patients who had undergone a urological endoscopy at Laquintinie Hospital, Douala General Hospital, and the Medico-surgical Center of Urology of Douala. The period of study was from January 2011 to December 2020. The data collected was analysed using SPSS® version 23.0.

Results: The prevalence of endoscopic urological surgery in the three selected hospitals was 7.27%. The Medico-surgical Center of Urology of Douala had 56.8% (249/438) of endoscopic surgery while Douala General Hospital and Laquintinie Hospital had 33.3% (146/438) and 9.8% (43/438) respectively. Of patients, 30.37% (133/438) were within the age group 60–69 years. Urine retention (37.67%; 165/438) and haematuria (36.53%; 160/438) were the most common reasons of consultation. Benign prostate hypertrophy (39.95%; 153/383) was the most common clinical indication among males, while bladder tumour (49.09%; 27/55) was the most common clinical indication among females. The most practised urological endoscopic surgeries in the three hospitals were transurethral resection of the prostate (46.3%; 203/438), endoscopic internal urethrotomy (29.2%; 128/438), and transurethral resection of the bladder (11.9%; 52/438). Of patients, 97.49% (427/438) had a duration of hospitalisation of less than a week with an average of 3.84 ± 2.25 (SD) days.

Conclusion: The practice of urological endoscopy is still a novel practice in our setting, with a rate of seven urological endoscopic procedures performed out of 100 urological surgeries. The majority of patients who underwent endoscopic surgery were men older than 50 years with lower urinary tract obstruction.

Keywords: mini-invasive surgery, endoscopic urological surgery, Douala

Introduction

Endoscopy is a minimally invasive medical procedure, which permits the visual exploration of an inner (“endon” in Greek) cavity of the human body that is inaccessible with the naked eye. The procedure is performed via natural orifices when possible but, in certain situations, via incisions.¹ Over several years, surgeons have sought to develop techniques to decrease morbidity. An extensive array of minimally invasive procedures now exists in the urologist’s armamentarium for both diagnostic and therapeutic indications.² This has promoted the trend of endoscopic surgery in both gastrointestinal and non-gastrointestinal operations.³ There has been significant progress in the development of the field of endourology over the last two decades. This involves diagnostic and therapeutic methods, which influence the practice of modern urology in developed countries.⁴ Endourology helps in the diagnosis of pathologies like bladder cancer, stenosis, and urethral obstruction. The benefits of endoscopy include the absence of incisions, fewer aesthetic problems, postoperative comfort, less risk of adherence, fewer hospitalisation days, faster return to professional activities, and reduction in infectious complications.⁵ In Cameroon, there is scant data on endoscopic surgery especially with regard to the indications, techniques, and results. The main objective of this

study was to assess the practice of this technique in three selected hospitals in Douala.

Methods

This was a retrospective descriptive study. This study was a retrospective data collection for a period of nine years, that is from 1 January 2011 to 31 December 2020. There were three hospitals selected for this study of which two were from the public sector and one from the private sector located in the town Douala, which had a functional urology department. The inclusion criteria included all patients of all age groups who had undergone endoscopic urological surgery and whose medical files were complete, whilst patients whose files were incomplete or with no operative report were excluded. The selected medical files included the patients’ personal information, consultation reason, antecedents, diagnosis, operation report and postoperative follow-up. Ethical authorisation was obtained by the Institutional Ethics Committee for Research on Human Health (No: 26/16/CEI-UDo/DS/2021/T). Data collected was analysed using SPSS® version 23.0. The qualitative variables were expressed in frequency and percentages that were shown on tables, while quantitative data were expressed in mean \pm standard deviation (SD).



Figure 1: Endoscopy column Douala General Hospital

Results

There were 6 823 urological surgeries in the three selected hospitals; amongst those surgeries, 496 cases underwent endoscopic surgery. There were 438 medical files selected based on the inclusion criteria. The prevalence of endoscopic urological surgery in the three selected hospitals was 7.27% (496/6 823). Among the files selected, most of the patients (249/438) were from the Medico-surgical Center of Urology of Douala, 146/438 cases were from the Douala General hospital and 43/438 cases were from Laquintinie Hospital of Douala as shown in Table I below.

Table I: Distribution of endoscopic urological surgery in the three selected hospitals

Hospitals	Frequency (n)	Percentages (%)
Medico-surgical Center of Urology of Douala	249	56.8
Douala General Hospital	146	33.3
Laquintinie Hospital of Douala	43	9.8
Total	438	100

The majority of the patients were males (87.4%; 383/438) while 12.6% (55/438) were females. The male-to-female ratio was 6.96.

The mean age was 58.26 ± 15.22 (SD) years, with a range of 20 to 89 years. Most of the patients (30.37%; 133/438) were within the age group 60–69 years, followed by 23.29% (102/438) patients from 70 years and above, as seen in Figure 2.

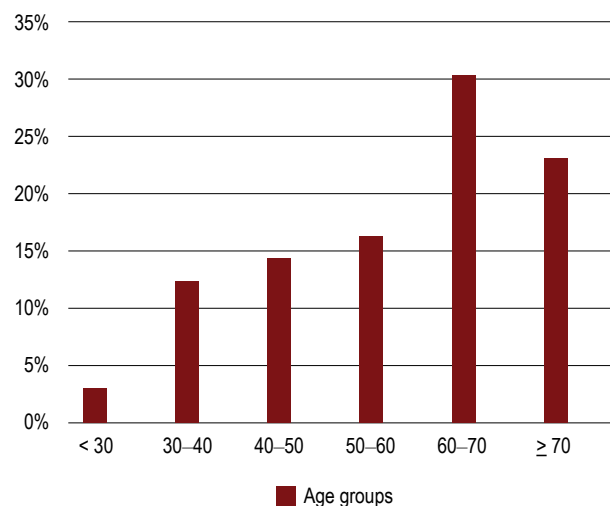


Figure 2: Age distribution of patients

The most common reasons for consultation were acute urine retention (37.67%; 165/438), haematuria (36.53%; 160/438), and dysuria (35.62%; 156/438) as seen in Table II.

Table II: Common reasons for urological consultation

Variables	Frequency (n = 438)	Percentages (%)
Acute urine retention	165	37.67
Haematuria	160	36.53
Dysuria	156	35.62
Removal of JJ stents	50	11.42
Lumbar pain	44	10.05
Burning sensation during micturition	28	6.39
Pelvic pain	7	1.60
Urinary urgency	1	0.23
Urinary incontinence	1	0.23

The predominant clinical indications found in males were benign prostate hypertrophy (39.95%; 153/383), and urethral stenosis (34.73%; 133/383), while among females, bladder tumour (49.09%; 27/55) and renal lithiasis (30.91%; 17/55) were predominant (Table III).

Table III: Common clinical indications among males and females

Clinical indications	Gender	
	Male n (%)	Female n (%)
Bladder lithiasis	4 (1.04)	2 (3.64)
Bladder neck contracture	4 (1.04)	0 (0)
Renal lithiasis	9 (2.35)	17 (30.91)
Ureteral lithiasis	11 (2.87)	7 (12.73)
Bladder tumour	25 (6.53)	27 (49.09)
Prostate adenocarcinoma	48 (12.53)	0 (0)
Urethral stricture	133 (34.73)	2 (3.64)
Benign prostate hypertrophy	153 (39.95)	0 (0)
Total	383 (100)	55 (100)

Transurethral resection of the prostate (TURP), endoscopic internal urethrotomy (EIU), and transurethral resection of the bladder

Table IV: Urological endoscopic surgeries carried out in the hospitals

Urological endoscopic surgeries	Medico-surgical Center of Urology of Douala n (%)	Laquintinie Hospital of Douala n (%)	Douala General Hospital n (%)	Overall total of the three hospitals
TURB	22 (8.8)	12 (27.9)	18 (12.3)	52 (11.9)
TURP	105 (42.2)	14 (32.6)	84 (57.5)	203 (46.3)
EIU	74 (29.7)	13 (30.2)	41 (28.1)	128 (29.2)
EIU + TURP	1 (0.4)	1 (2.3)	3 (2.1)	5 (1.1)
Flexible ureteroscopy	34 (13.7)	1 (2.3)	0 (0)	35 (8)
Rigid ureteroscopy	13 (5.2)	2 (4.7)	0 (0)	15 (3.4)
Total	249 (100)	43 (100)	146 (100)	438 (100)

TURB – transurethral resection of the bladder, TURP – transurethral resection of the prostate, EIU – endoscopic internal urethrotomy

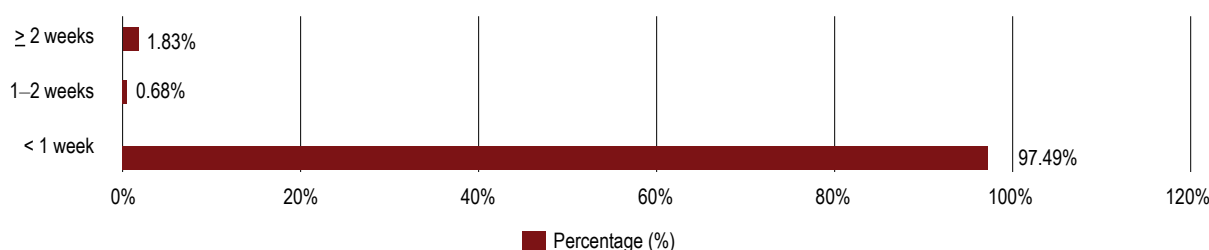


Figure 3: Hospitalisation days

(TURB) were the most common urological endoscopic surgeries performed in the three selected hospitals with 46.3%, 29.2%, and 11.9% respectively as shown in Table IV. Flexible ureteroscopy and rigid ureteroscopy are practised more frequently at the Medico-surgical Center of Urology of Douala with two cases of rigid ureteroscopy at the Laquintinie Hospital of Douala.

The average duration of the surgeries was 74.98 ± 41.21 minutes with a range of 12 to 152 minutes. There was an average duration of hospitalisation of 3.84 ± 2.25 days with a range of 2 to 22 days. Figure 3 shows that most of the patients were hospitalised in the various hospitals for less than a week (97.49%; 427/438).

Discussion

The prevalence of endoscopic urological surgery in this study was 7.27%. This finding was similar to that of Juvet et al.⁶ in Malawi, which had a prevalence of 10.44%. This similarity in results may be because urological endoscopic surgery is a novel surgery and requires special equipment and specialists, which are limited in Africa.⁶

In this study, the mean age of the patients was 58.25 years. This was similar to the study by Borrini et al.⁷ in France, which had a mean age of 55.3 years. The similarity in results may be due to the prevalence of pathologies like prostate and bladder tumours among adults older than 50 years that may be associated with complications resulting in surgery.

The most common reason for consultation in this study was acute urinary retention (37.67%). This finding was similar to that of Diakite et al.⁸ in Mali, which had acute urinary retention (38%) as the most common reason of consultation. These findings differ from those of Joshi et al.⁹ in Nepal, which had haematuria (91.1%) as the most common reason of consultation. The discrepancy in findings may be because the most common diagnosis in the study by Joshi et al.⁹ was bladder tumour (main clinical indication is haematuria).

Most men in this study had benign prostate hypertrophy (39.95%) as clinical indication. This finding was similar but slightly lower than that of Diakite et al.⁸ in Mali, which revealed 57% of the patients have benign prostate hypertrophy as clinical indication. The similarity in these findings may be due to the increase in incidence of benign prostate hypertrophy these past years.

The findings of this study revealed that bladder tumour was the most common clinical indication among women with 49.09%. This finding was similar but slightly higher than that of Rambau et al.¹⁰ in Tanzania, which revealed that 31.8% of women had bladder cancer as clinical indication. The similarity in these results may be due to the incidence of schistosomiasis.¹⁰

TURP was the most practised urology endoscopic technique in the three hospitals, with an overall percentage of 46.3%. This finding was different from that of Juvet et al.⁶ in Malawi (6.59%). The discrepancy in the results may be because in some countries in Africa there are not enough urologists and limited facilities to practise this technique, as is the case in Malawi.⁶

EIU was the second most practised urological endoscopic technique in the three hospitals, with an overall percentage of 29.2%. This finding was different from that of Ngaroua et al.¹¹ in Cameroon which revealed that 58% practised the EIU technique. The discrepancy in the results may be because urethral stenosis was the most common indication in the study by Ngaroua et al.¹¹

Conclusion

There is a low practice rate of endourological surgeries in our setting (seven endourological surgeries out of 100). However, TURP was the most practised technique which was related to the most common clinical indication of benign prostate hypertrophy. Most patients were men within the age group 60–69 years.

Conflict of interest

No conflict of interest.

Funding source

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Ethical approval

Ethical authorisation (CEI-Udo /2646/05/2021T) was obtained from the University of Douala.

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