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Original Research Article

Spectrum of urological procedures in Yobe State University Teaching Hospital: an initial experience in a young west African hospital

Usman Mohammed Tela[1]*, Rufai Mainasara[2]

[1]Department of Surgery, University of Maiduguri Teaching Hospital. Borno state, Nigeria
[2]Department of Surgery, Yobe State University Teaching Hospital, Yobe State, Nigeria

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***Correspondence:**
Dr. Usman Mohammed Tela,
E-mail: umtela@yahoo.com

ABSTRACT

Background: In auditing the surgical procedures of a hospital, services rendered to patients are reviewed using the data generated from the procedures, hence the outcome is used as a framework for improvement in future and capacity building. Objectives of the study were to analyze the indications for Urological procedures with the procedures performed at Yobe State University Teaching Hospital (YSUTH) and share our experience, with recommendation for future improvement**.**
Methods: Retrospective hospital-based study on patients who had urological procedures done in YSUTH between March 2018 to April 2020. Urology patients that have not undergone any urological procedure were excluded from the study. Data obtained from the records in the operation theatre, emergency unit and medical record department of the hospital.
Results: There were 185 patients with indications for surgery, constituting 41.0% of all general surgery patients. Male to female ratio was 8.7:1 and the median age range was 70-79 years. A sum of 212 urology procedures performed. Benign prostate hyperplasia (BPH) and prostatectomies were the commonest diagnoses and elective procedures respectively, while urethral stricture and bladder cancer were the 2nd and 3rd diagnose respectively. Urethral catheterization for urine retention in BPH was the commonest emergency procedure. Cystoscopy was the commonest day case and the commonest among endo-urology procedures.
Conclusions: BPH, followed by urethral strictures and bladder cancers were the commonest diagnoses and indications for surgery. Urine retention in BPH is the commonest emergency requiring urthral catherization. Creation of dedicated day surgery unit and employment of permanentt consultant urologists and more health personnels relevant to urology, will improve the quality and quantity of services rendered.

Keywords: Urological procedures, Urological diagnoses, Urological admission

INTRODUCTION

Regular audit of clinical services of a hospital including urological services rendered is an important component of hospital development. Clinical audit involves comparing the care given to patients with a defined standard of practice, with the hope of improving the patients' care in future.[1] It is used as a guide by healthcare managers, and could be the cornerstone for further healthcare capacity building.[2,3] Yobe state university teaching hospital (YSUTH) is a new hospital commissioned 3 years ago. It is the only tertiary hospital in the state capital, and active surgical services commenced in the past 2 years to date. Urological cases seen are inclusive of those referred from various parts of the state and even beyond were being managed by 2 visiting consultant urologists to surgery department of YSUTH. The unit runs one outpatient clinic a week and

two theater sessions every week. Frequency of urologic procedures performed by a hospital may depend largely on the prevalent disease burden, the regional setting of the practice, the availability of equipment, man power and patients' affordability. Few facilities for basic endo-urology were procured by the hospital last year.

The objective of our study was to analyze the indications for urological procedures and types of procedures performed in YSUTH, then share our experience and recommend on aspects that need improvements, for future capacity building.

METHODS

This is a retrospective hospital-based study on patients who had urological procedures done in YSUTH over 2-year period, between March 2018 to April 2020. The inclusion criteria was all the urology patients who had urological procedures done, while urology patients seen in the hospital but no any urological procedure was done on them were excluded from the study. The sum of 185 patients had urology procedures, hence they are the total samples that qualified for this study. This study was approved by the Research and Ethics committee of the hospital. Data were extracted from clinical notes of the patients, accident and emergency (A and E) unit records and from the main theatre operation register. Information obtained were the demographic characteristics of the patients, preoperative diagnoses/indications for the surgeries, either as emergency or elective surgery, the urological procedures done and either as open or endo-urology. Data analysis was done using statistical package for the social sciences (SPSS), version 20.0.

RESULTS

The overall sum of surgical procedures done within 2 years in the department of surgery (general surgery unit, orthopedics unit and urology unit) were 450 cases, out of which only 185 (41.1%) of these cases were urology patients which qualified for this index study. Out of these 185 urology patients, 166 (89.7%) were males, with male to female ratio of 8.7:1. The median age range was 70-79 years as shown in Table 1. Although 185 pre-operative diagnoses were achieved, but 212 urological procedures were performed among these 185 urology patients. The explanation for this, is that, 12 cases out of the orchidectomies for prostate cancer, earlier had prostate biopsies done, which gave rise to dual procedure in each of the 12 patients. Also 15 among the BPH patients presented with acute urine retention and were catheterized before the prostatectomy. Table 1 shows the procedures done in these patients. BPH was marginally the most common indication for surgery. Although, 20 cases of bladder cancer were observed but only 2 were fit and had partial cystectomy, some lost to follow up, some referred to oncology center, and the remaining advanced and metastatic cases were managed by palliative care inclusive of chemotherapy.

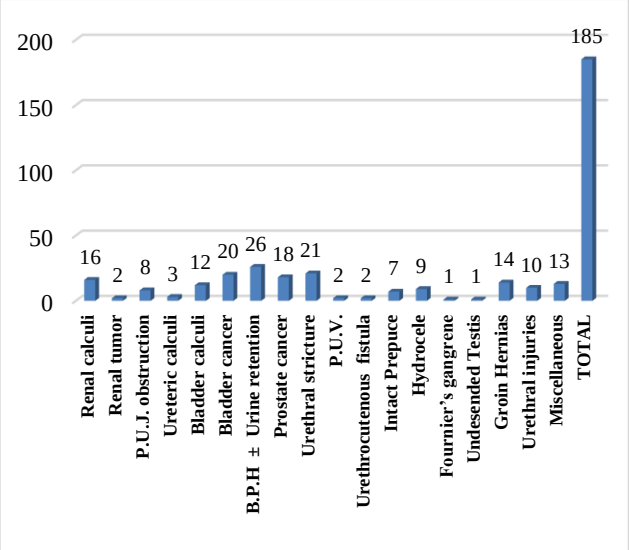

Figure 1: Frequency distribution of pre-operative diagnoses/indications for surgeries.

Table 1: Frequency distribution of the age of patients.

Age range (years)	Frequency		Total (%)
	Males	Females	
0-9	13	1	14 (7.6)
10-19	9	2	11 (5.9)
20-29	20	4	24 (13.0)
30-39	20	1	21 (11.3)
40-49	14	1	15 (8.1)
50-59	21	0	21 (11.3)
60-69	25	3	28 (15.1)
70-79	35	7	42 (22.7)
80-89	8	0	8 (4.3)
90-99	1	0	1 (0.5)
Total	166	19	185 (100.0)

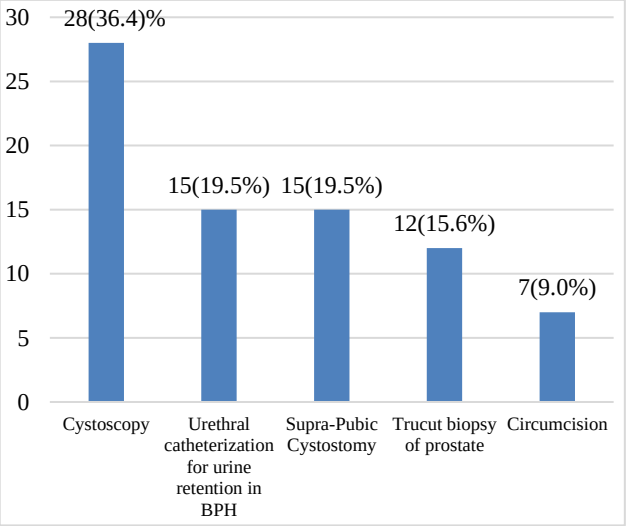

Figure 2: Frequency distribution of urology day case procedures.

Table 2: Frequency distribution of urological procedures performed.

Urological Procedures	Frequency	%
Pyelolithotomy and nephrolithotomy	16	7.5
Percutaneous nephrostomy	2	0.9
Nephrectomy	3	1.4
Pyeloplasty	6	2.8
Ureterorenoscopy with pneumatic lithotripsy	2	0.9
Cystolithotomy	12	5.7
Partial cystectomy	2	0.9
cystoscopy: for bladder tumors biopsy	20	9.4
Cystoscopy for double J stent removal	8	3.8
SPC for 10 patients with urethral injuries and 5 with urethral strictures.	15	7.1
Open prostatectomy	16	7.5
Trans-urethral resection of the prostate (TURP) for BPH	10	4.7
"Channel" TURP for advanced prostate cancers with obstructive uropathy	2	0.9
Direct vision internal urethrotomy (DVIU).	4	1.9
Urethroplasty	13	6.1
Orchidectomy for prostate cancer	18	8.5
Orchidopexy	1	0.5
Hydrocelectomy	9	4.2
Circumcision	7	3.3
Posterior urethral valve ablation	2	0.9
Debridement for Fournier's gangrene	1	0.5
Herniorrhaphy	14	6.6
Trucut biopsy of the prostate	12	5.7
Urethral catheterization for urine retention in BPH	15	7.1
Miscellaneous	2	0.9
Total	212	100.0

Table 3: Frequency distribution of endo-urology procedures performed.

Endo-urology procedures	Frequency	%
Ureterorenoscopy with pneumatic lithotripsy	2	4.3
TURP for BPH	10	21.7
Channel TURP in prostate cancers	2	4.3
Cystoscopy for bladder tumors	20	43.5
Cystoscopy for Double J Stents removal	8	17.4
DVIU	4	8.7
Total	46	100.0

Out of the 212 procedures done, 33 (15.6%) were performed as emergencies (urethral catheterization for urine retention in BPH, supra-pubic cystostomy, per-cutaneous nephrostomy and debridement for Fournier's gangrene), while the rest as elective cases as shown in Table 2. Total of 46 (21.7%) out of 212 procedures were done as endo-urology procedures, the cases seems to be less, because facilities for endoscopy were procured just 1 year ago. Cystoscopy was the most common endo-urology procedure done for 28 patients (Table 3).

DISCUSSION

In this study the median age range observed was in the 7th decade (60-69 years range), which was contrary to the median age within the 1st decade (0-9 years) observed by Eke et al this was because the predominant number of their cases done were among paediatric patients (39.1%) as compared to ours (7.7%).[2] Although, fewer number of urological procedures were done in our study compared to that of Eke et al in Port Harcourt, but the percentage of urological procedures out of total general surgery procedure was higher in our study(40.0%) than theirs' (22.6%).[2]

In this study, the commonest diagnosis observed was BPH, this is similar to earlier studies in Nigeria and the recent one in Ethiopia, but contrary to the study in Malawi, in which urethral strictures dominates.[4-7] Prostatectomies (26 cases, 12.3%) for BPH were the commonest elective procedures performed (that is, comprising of both open prostatectomy (7.6%) and TURP (4.7%)), this leading procedure coincides with commonest diagnosis in our study and previous study in Zaria, but contrary to the report in Port Harcourt because their dominant procedures were circumcisions in a study dominated by children (734 cases, 39.1%) under 9 years of age as compared to ours.[2,5] We have recorded very few cases of circumcision in YSUTH, because circumcisions are done for free in other government hospitals in Yobe State, and parents mostly prefer to go for free services than to pay for circumcision at YSUTH.

Our commonest emergency procedures observed were urethral catheterizations to relieve acute urine retention in BPH (15 cases, 7.1%). Urine retention was also similarly observed as the commonest emergency in earlier studies in Nigeria and Senegal, but contrary to a study in India in which renal colic was the commonest emergency.[8-12]

In our study, 77 of the total procedures (36.3%) were performed as day cases as shown in Figure 2. We lack a dedicated day surgery unit in this new hospital, this could have help in doing a lot of the procedures in Table 2 as day cases, and perhaps the number of procedures we reported could have been larger. Cystoscopy was the commonest day case procedure in our study, which is contrary to the reports of earlier studies in which prostate biopsy was the commonest day case, the possible reason could be the short period of our study, also could be due

to the cheapest cost of doing cystoscopy at YSUTH compared to many Nigerian Hospitals, which is 10,000 Naira equivalent to 26.3 US Dollars, hence patients from the neighboring hospitals were attracted by this price.[13-15]

Although only 46 endo-urology cases were performed as reported, within the limited period of only 2 years in our study (i.e., combing both for the purpose of diagnostic and therapeutic endo-urology) using the recently procured endo-urology equipment by the hospital, but it's still far better than the total number of only 30 diagnostic endoscopy cases performed within a long period of 10 years, at a teaching hospital in Southern Nigeria, reported 13 years ago.[2] Cystoscopy was also the commonest endo-urology procedures performed in our study (28 cases, 60.9%) for assessment and biopsy of bladder tumor, and for removal of indwelling double J stents in patients who earlier had stone surgeries in the ureters and kidneys.

The limitation of our study includes inadequate man power, only 2 urologists and few medical officers that managed these patients. Other limitation is short period of our study, which when longer might have given us the chance to notice some patients with recurrence of the diseases, and those that will require repeat of the urological procedures.

CONCLUSION

BPH, followed by urethral strictures and bladder cancers were the commonest diagnoses and indications for surgery. Urine retention in BPH is the commonest emergency requiring urthral catherization. Creation of dedicated day surgery unit and employment of permanentt consultant urologists and more health personnels relevant to urology, will improve the quality and quantity of urolgical services rendered in YSUTH.

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