

SPECTRUM OF UROLOGICAL PROCEDURES IN UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL, PORT HARCOURT, NIGERIA.

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ABSTRACT

Aim: To determine the relative frequencies of types of operations, age and gender distribution of the patients and the indications for operation in the Urology Unit over a 10-year period between 1989 and 1998.

Setting: The Urology Unit of the University of Port Harcourt Teaching Hospital.

Type of study: Retrospective.

Methods: Patients' demographic data were collected from the Main Theatre registers of the Hospital, the Medical Records Department ward records patients' and case note. Those operations done in the Urology Unit were analysed.

Results: Urological operations (total 1875) formed 22.6% of all surgical operations in the hospital during the decade under review. There were 1847 males (98.5%) and 28 females (1.5%). The age distribution showed two peaks in the first decade and in the seventh decade. Frequencies of operations were least in the 4th decade and after the 9th decade. Circumcisions, surgery for prostate disease, procedures for urethral strictures, urological trauma and paediatric reconstruction formed the majority of operations. Endoscopic urological procedures were limited to the occasional cystoscopy. Some 67.6% of the operations were performed in the first half of the decade and 32.4% in the second half. A rapid decrease in the number of operations was noticed which compared with the same pattern in the Department of Surgery as a whole.

Conclusion: We recommend the establishment and development of human and material resources for Urological service for basic procedures and endo-urological practice in keeping with contemporary trends and the allocation of more theatre space and out-patient Clinic time to the urology service.

Key words: Urological procedures; Spectrum; Port Harcourt.

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INTRODUCTION

A periodic audit of performances of a surgical unit is necessary for decision making. It forms the basis for comparison of standards of practice and improvement in service¹. It is also expected to enhance the judicious allocation of scarce resources. The Urology Unit of the University of Port Harcourt Teaching Hospital (UPTH) was set up in 1988 to cater for only the urological problems of patients. Initially there were two Urologists, one full-time and the other part-time. The Unit is allotted only one operation session a week from 9 am to 3 pm and one outpatient service a week over similar hours. The

hospital operating theatre has no uro-specific equipment such as a resectoscope and has no dedicated radiological service for radiological support and intervention. A retrospective study of urological operations carried out in the last decade of the previous century (1989-1998) in University of Port Harcourt Teaching Hospital was done against this background. The study seeks to determine the relative frequencies of the types of operations, age and gender distribution of the patients and the indications for operation. Recommendations regarding aspects for improvement are made from the data obtained.

METHODS

Operation registers for the years under study were collected. Records were taken of the urological

operations done, age and gender of the patients, organs involved and dates of operation. The total number of patients who attended the hospital within the period was recorded together with the total number of surgical operations done during the period under review. The data were entered in tables using simple percentages.

RESULTS

There were 781,961 hospital attendances, 105,021 admissions and 8,282 operations. Of these operations, 1,875 (22.6%) were urological operations. The gender distribution of the patients was 1847 males (98.5%) and 28 females (1.5%). The ages ranged from 7 days to 95 years.

A total of 734 operations (39.1%) were performed on children in their first decade of life (Table 1). Up to 33.6% of urological operations were performed on adults in their 6th to 8th decades of life. Thus there were 2 peaks in the pattern of urological operations one in the first decade and the second in the 7th -8th decades. The frequency of these operations was lowest in the 9th to 11th decade and 2nd to 4th decades (Table 1). There were many more (67.6 %) operations in the first half of the decade under study than the latter half (32.4%). Urological operations per year ranged between 13.8 and 29.5% of surgical procedures (Table 2). Apart from these extremes, the majority were between 20-25% of all surgical procedures.

The commonest indications for operation were male circumcision for cultural reasons (31.4%), urethral stricture (14.7%) and benign prostatic hyperplasia (BPH) 14.1%. Other indications included hydroceles 5.9%, prostate cancer 4.2%, urological trauma 3.3% and undescended testis 2.2% (Table 3). Several indications necessitating cystoscopy were not specified. Included in miscellaneous indications were retroperitoneal abscess, perinephric abscess, vesicocutaneous fistula, scrotal cysts, cancer of the scrotum, retained catheter and *ectopia vesica* among others.

The most frequently done operation was male circumcision on 589 occasions (31.4%) (Table 4). Other operations were urethral dilatation, prostatectomy for BPH, hydrocelectomy, suprapubic cystostomy and orchidectomy. Orchidopexy was done on 74 occasions. Among these the indications were undescended testes in 42 (2.2%) and testicular torsion in 32 (1.7%) [Table 4]. Endourological procedures are conspicuous by their paucity. Included among miscellaneous procedures were drainage of abscesses from the retroperitoneal and perinephric spaces, vesicocutaneous fistulectomy, renorrhaphy.

meatoplasty, ureterosigmoidoscopy, pyeloplasty and ureteroneocystostomy.

The operations were done almost equally among Consultants 884 (47%) and Resident doctors 991 (53%). The organs operated on were the penis 632 times (32.5%), urethra 506 times (26.0%), prostate gland 409 times (21.0%), testis 219 times (11.3%), urinary bladder 96 times (4.9%) and kidney 50 times (2.6%) (Table 5).

Table 1. Age Distribution of Urological Procedures Performed in UPTH (1989 1998)

S/N	Age (Years)	Number	Percent
1	0 -9	734	39.1
2	10 -19	129	6.9
3	20 -29	122	6.5
4	30 -39	94	5.0
5	40 -49	110	5.9
6	50 -59	157	8.4
7	60 -69	239	12.7
8	70 -79	234	12.5
9	80 -89	53	2.8
10	90 -99	3	0.2
11	100 & Above	Nil	0.0
Total		1875	100.0

Table 3. Indications for Urological Operations in UPTH (1989 1998)

S/N	Indication	Number	Percent
1	Religious/Cultural Circumcision	589	31.41
2	Urethral stricture	275	14.66
3	B P H	265	14.13
4	Hydroceles	111	5.95
5	Carcinoma of the Prostate	78	4.16
6	Urologic Trauma	62	3.31
7	Undescended Testis	42	2.24
8	Testicular torsion	32	1.71
9	Hypospadias	19	1.01
10	Renal Cell Ca	14	0.75
11	Posterior Urethral	13	0.69
12	Fournier's Gangrene	10	0.53
13	Renal Calculi	8	0.43
14	Ca Urinary Bladder	7	0.37
15	Bladder Calculi	7	0.37
16	Wilm's Tumour	7	0.37
17	Fracture of Peins	6	0.32
18	Testicular Tumour	5	0.27
19	Miscellaneous	325	17.33
20	TOTAL	1875	100.0

BPH=Benign prostatic hyperplasia, Ca = Carcinoma

Table 2. Annual Distribution of Urological and Surgical Procedures in UPTH (1989 -1998)

S/N	Year	No of Uro Procedures	% of all Uro Procedures	No. of Surg Procedures	Uro Procedure as % of Surg Procedures
1	1989	292	15.6	1241	23.5
2	1990	361	19.3	1225	29.5
3	1991	252	13.4	1246	20.2
4	1992	217	11.6	103	20.4
5	1993	145	7.7	80	21.3
6	1994	91	4.8	45	20.0
7	1995	153	8.2	610	25.1
8	1996	45	2.4	327	13.8
9	1997	167	8.9	663	25.2
10	1998	152	8.1	771	19.7
Total		1875	100.0	8282	22.6

Uro = Urological Surg = Surgical

Table 4. Urological Procedures Performed in UPTH (1989 -1998)

S/N	Procedure	Number	Percent
1	Circumcision	589	31.41
2	Urethral dilatation	283	15.09
3	Prostatectomy	265	14.13
4	Hydrocelectomy	111	5.92
5	Suprapubic cystostomy	93	4.96
6	Orchidectomy for CaP	78	4.16
7	Orchidopexy	74	3.95
8	Nephrectomy	28	1.49
9	Cystoscopy	21	1.12
10	Repair of hypospadias	19	1.01
11	Bladder exploration	16	0.85
12	Posterior urethral valvotomy	13	0.69
13	Meatotomy	12	0.64
14	Urethroplasty	11	0.59
15	Exploratory laparotomy	10	0.53
16	Wound debridement in Fournier's gangrene	10	0.53
17	Repair of bladder injury	8	0.43
18	Cystolithotomy	7	0.37
19	Repair fracture of penis	6	0.32
20	Orchidectomy for tumor testis	5	0.27
21	Miscellaneous	216	11.52
22	Total	1875	100.0

CaP = Carcinoma of the Prostate

Table 5. Frequency of Procedures on the Organs in UPTH 1989-1998)

S/No	Organ	Number	Percent
1.	Penis	632	32.5
2	Urethra	506	26.0
3	Prostate gland	409	21.0
4	Testis	219	11.3
5	Urinary Bladder	96	4.9
6	Kidneys	50	2.6
7	Scrotum	25	1.3
8	Ureters	7	0.4
	Total	1944	100

DISCUSSION

Urology as a specialty has evolved in the later half of the last century². Although this evolution has become established in the developing world such as Nigeria, the essential facilities for the modern practice of Urology are conspicuous by their lack. Thus in our institution practice is mainly reconstructive for trauma and congenital malformations and extirpative for various malignant and benign acquired diseases. These facts are borne out in this study by the peaks of high incidence with children (circumcision and hypospadias repairs) and 6th to 8th decades (prostatic diseases and urethral strictures). A similar trend was reported from a review spanning 26 years at the Ahmadu Bello University Zaria³. The 1875 urological procedures in a decade is a small number. Part of the explanation is the spaces and times allotted to the unit. There is not enough office space or theatre space for most units in the region locally and nationally. Besides, several urological operations are carried out in Port Harcourt outside the UPTH in private medical facilities by all grades of surgeons. Thus the data here present a poor reflection of the actual current need for the service in the vicinity.

It will be of interest to compare the age, sex and organ distribution of the operations in this series with that elsewhere. Urological procedures predominated among males (Table 1). Part of the reason is that gynaecologists have appropriated female urological services involving repair of vesicovaginal fistulae and female urinary incontinence. Collaboration between gynaecologists and urologists in the management of these and other conditions in this millennium has been advocated⁴. Other explanations to the male:female disparity include the absence in women of the prostate and penis, the major organs involved in urological practice as shown in Table 5.

The progressive fall in the number of urological operations in the 2nd half of the decade (Table 2) is probably multifactorial. There were frequent incidences of industrial unrest/upheaval by hospital and other workers during the second half of the decade locally and nationally. The same trend was reported from Zaria³. Also in the first half of the period of this study, children and patients with malignant disease received free treatment in the public hospitals. This policy was changed in 1991-1995⁵ in spite of the dwindling economic resources for the citizenry. Furthermore, charges have continued to increase outstripping the income of the populace. The total hospital attendance and admission also fell during this period.

The preponderance of circumcisions is a local/peculiar phenomenon. In other centres many other units including general and paediatric surgery carry out this procedure including those done outside the hospitals by midwives. Surgery for benign prostatic hyperplasia (BPH) was the commonest major urological operation in the above series. Recently BPH and carcinoma of the prostate (CaP) have been reported to be equally common³. The incidence of CaP appears to be overtaking that of BPH^{6,7}. Carcinoma of the prostate formed only 4.2% of the indications for operation (Table 4). This low figure suggests a low incidence of prostate cancer in the period compared with recent experiences. However, the increasing incidence of prostate cancer in Nigeria was articulated recently^{6,7,8}. The disease was probably underdiagnosed as serum PSA assay was not available. The surgical treatment in our institution was palliative hormonal manipulation by orchidectomy and urinary diversion procedures such as suprapubic and urethral catheterizations when indicated. Palliation was usually the only option because of the late presentation of patients in the locality with such symptoms as paraplegia, urinary retention and cachexia^{8,9,10}. Symptomatic prostate cancer is considered to be advanced disease¹¹. However, not all prostate cancer patients in this series had orchidectomy. This accounts for the low proportion of patients with prostate cancer who had operations.

In the period under study, urethral strictures requiring dilatation were the third commonest indication for operation. Recently a fall in the incidence of inflammatory strictures has become apparent¹². As the strictures were mainly inflammatory from urethritis, perhaps from sexually transmitted diseases (STD), it is speculated that the fall in the incidence reflects improved treatment of urethritis with potent antibiotics. Over the study period, antibiotics were available in Nigeria over the counter.

The two peaks of incidence of urological diseases are noted. These are due to the number of circumcisions and congenital anomalies of 1st decade of life and high incidence of prostatic neoplasia in the 7th to 8th decades.

Among the 'top 10' urological procedures recently described¹³, only 'minor open procedures on the foreskin' (circumcision) is found on our list. Although urethral catheterization and prostate biopsies are frequently done in this centre, these are not done in the theatre from where our records were obtained. The only endourological facility in the hospital was a cystoscope. This explains the absence

of endourological operations in the series. There is need for acquisition of facilities and manpower training in this discipline. Personnel training in the form of sponsorship for continuing medical education programmes, conferences, courses and short clinical attachments to acquire necessary skills especially in endourology are advocated. Basic materials were also lacking, such that, for prostate biopsy, patients had to buy and bring along their own Tru-Cut biopsy needles. Urological procedures over the years studied accounted for 20-25% of all surgical procedures. Other surgical specialist units in the hospital included Cardiothoracic, Burns and Plastics, Orthopaedics and General Surgery. If the proportion here is representative of what obtains in other tertiary health institutions in the country, allocation of human and material resources in the institutions should be increased to mirror this finding.

CONCLUSION/RECOMMENDATIONS

The decline in urological procedures paralleled the decline in all surgical procedures. The most plausible explanations are the increase in hospital fees and frequent national industrial actions. This calls for a review of funding in the hospital and maintenance of industrial harmony in the work environment. The patients serve for teaching of undergraduates and residents doctors. Facilities for early detection, radical curative treatments with surgery and radiotherapy as well as affordable palliative treatments should be made available by government as has been advocated earlier^{5,8,14}.

Facilities requiring urgent provision include the allocation of more theatre space and out patient consultation time to the urology service which performs 22.6% of all surgical operations in the hospital and the improvement of theatre facilities from instruments to equipments such as a modern resectoscope and other endourology facilities in keeping with contemporary trends.

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