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The Burden of Specialist Urologic Care in Abuja, Federal Capital City, Nigeria: A Single Surgeons 4-Year Case Load

Le Poids de la Prise En Charge en Specialite Urologique a Abuja, Capitale Federale Du Nigeria: Cas de la Charge de Travail D'un Seul Urologue Pendant 4 Ans.

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ABSTRACT

BACKGROUND: Urologic surgery is believed to form a major part of the surgical workload in many centers but this volume of clinical workload has not been extensively reported. Abuja is Nigeria's capital with a population of about 4 million residents. There are a total of fourteen public general and specialist hospitals with 6 consultant Urologists working in only three of these hospital serving the population. It is not known what proportion of the total surgical workload in Abuja is urological.

OBJECTIVE: To report a single Urologist case load in three hospitals in Abuja, Nigeria over a 4 year period.

METHODS: The out-patient clinic register, the Medical Records Department register, the surgical wards register and all retrievable patients' case notes of the Urologic Surgery service of the three hospitals were reviewed for extraction of patient's demographic data and clinical records

RESULTS: 2167 urological presentations were recorded within the study period. Of these there were 1903 (87.8%) adult males, 140 (6.5%) adult females,122 pediatric males (5.6%) and 2 pediatric females(0.1%) (with an age range of 18-72years, 22–55 years, 1 month – 12years and 11–12 years respectively).

Mean ages for the adult male and female patients were 44.4 and 33.4 respectively. The mean ages for male children less than 1 year old was 6.9months and 3.1years for those older while the mean age the only 2 female children seen was 11years. The commonest urologic condition seen were male factor infertility in adult males, possibly renal/ureteric calculi in adult females and communicating hydrocele in male children.

CONCLUSION: A total of 2167 cases seen during the period under review by a single urologist is suggestive of a significant urology case load in Abuja. Further study is required to determine if this result is a reflection of the burden of specialist urology care in all the tertiary referral health facilities in Abuja, Nigeria's Federal Capital Territory. **WAJM 2012; 31(2): 92–96.**

Keywords: **Case-load, specialist urologic care, Abuja, Nigeria.**

RÉSUMÉ

CONTEXTE: La chirurgie urologique est censé constituer une partie importante de la charge de travail dans de nombreux centres de chirurgie, mais ce volume de la charge de travail clinique n'a pas été largement rapportés. Abuja est la capitale du Nigeria avec une population d'environ 4 millions d'habitants. Il ya un total de quatorze hôpitaux publics généraux et spécialisés avec 6 Urologues consultant travaillant dans seulement trois de ces hôpitaux desservant la population. On ne sait pas quelle proportion de la charge de travail totale chirurgicale à Abuja est urologiques.

OBJECTIF: Rapporter une charge Urologue seul cas dans trois hôpitaux à Abuja, au Nigeria, au cours d'une période de 4 ans.

MÉTHODES: La clinique externe s'inscrire, les dossiers médicaux Département registre, la chirurgie salles enregistrer et les notes de cas tous les patients récupérables »du service de chirurgie urologique des trois hôpitaux ont été examinés pour l'extraction des données démographiques des patients et des dossiers cliniques

RÉSULTATS: 2167 présentations urologiques ont été enregistrées dans la période d'étude.Parmi ces il ya eu 1903 (87,8%) des hommes adultes, 140 (6,5%) des femelles adultes, 122 hommes en pédiatrie (5,6%) et 2 femelles pédiatriques (avec une fourchette d'âge des 18 72 années, 22 55 années, 1 mois et 10–12ans –12 années respectivement).

Les âges moyens pour les patients adultes mâles et femelles ont été 44,4 et 33,4 respectivement. L'âge moyen pour les enfants mâles de moins de 1 an a été 6,9 mois et 3,1 années pour ceux plus âgés tandis que la moyenne d'âge des deux seuls enfants de sexe féminin a été vu 11 années. Les plus courantes sont la condition urologiques vu l'infertilité masculine chez les hommes adultes, les coliques possibles urétérale chez les femelles adultes et l'hydrocèle communiquant chez les enfants de sexe masculin.

CONCLUSION: Un total de 2167 cas observés durant la période sous revue par un urologue seule est évocateur d'une charge de travail significative l'urologie à Abuja. Des études complémentaires sont nécessaires pour déterminer si ce résultat est le reflet de la charge des soins urologiques spécialisées dans toutes les installations tertiaires de santé de référence à Abuja, au Nigeria Territoire de la capitale fédérale. **WAJM 2012; 31 (2): 92–96.**

Mots-clés: charge de travail, spécialiste des soins urologiques, Abuja, Nigeria

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Abbreviations: World Health Organization (WHO),Pan African Urological Surgeons2 Association (PAUSA),Federal Capital Territory (FCT), Nigeria,Benign Prostatic Enlargement (BPE),erectile dysfunction (ED), premature ejaculation (PE),lower urinary tract symptoms (LUTS), urinary tract infections (UTI's), phosphodiesterase 5 inhibitors (PDE5i),overactive bladder syndrome (OAB),torsion of the testis (TT), torsion of the testicular appendage (TTA), epididymorchitis (EO) OAT (Oligoasthenoteratospermia)

INTRODUCTION

Abuja is Nigeria's capital city with a population of about 4 million residents. There are a total of fourteen public general and specialist hospitals with 6 consultant Urologists currently working in only three of these hospitals.

In Nigeria, there is anecdotal evidence that in the absence of a specialist Urologist or a General Surgeon who had some training in Urology the care of many of these patients falls to the General Surgeon who may have limited experience of care in contemporary urological practice.

Urologic conditions account for about 25% of the cases seen in a busy surgical department.[1] While the World Health Organisation (WHO) recommends 1 urologist per 100,000 people, there are according to the Pan African Urological Surgeons.[2] Association (PAUSA) less than 100 urologists outside South Africa and Egypt.[2]

The diagnosis and subsequent management of urologic conditions is therefore limited by the inadequate number of certified Specialist urologists. Against this background, we present the first report of the burden of specialist urology care seen at the Asokoro District General Hospital, Wuse District General Hospital and the Federal Staff Hospital all in Abuja in a 4-year period. These health institutions had no specialist urologic service existing before 2007.

SUBJECTS, MATERIALS AND METHODS

This is a retrospective study of all patients (clinics and inpatients) managed by the author over a four-year period at the Asokoro District General Hospital, Wuse General Hospital and the Federal Staff Hospital all in Abuja from February 2007 to January 2011. The sources of data were from the urology service register, medical record department urology register, the surgical wards patient registers and the case notes of patients that were retrievable.

The main data source was the individual hospitals Urology service registers which was maintained by the author independent of and crosschecked with the other hospital medical records for accuracy of recording. The patients name was entered into the register only at the time of first presentation and his data updated on follow-up visits The chances of multiple data entry for the same patients were minimised by reference to a note on the patients file tracer card as well as on the case files indicating the patients entry number on the service register.

All patients were either self-referred or were referred by other specialist and primary care physicians. Information relevant to the review such as demography, presenting features and clinical diagnosis in patients was extracted by the author from the service registers and the data entered into a proforma which was subsequently analyzed and expressed as simple percentages were appropriate.

RESULTS

A total of 2167 patients were seen in the Urology service within the study period. Of the recorded consultations only 2010 case notes were retrievable. Since all data relevant to the study had been recorded in the Urology service diaries, all 2167 patients managed within the period under review formed the basis for further analysis.

The number of patients seen by category revealed that, there were 1903 adult males, 140 adult females, 122 male children and 2 female children constituting 87.8%, 6.5%, 5.6% and 0.1% respectively of the study population (Table 1).

Male factor infertility was the commonest urologic conditions seen in adult males accounting for 27.4% of all cases in them. Among the adult females, pain in the urinary tract from possible renal/ureteric calculi constituted 68.6 % while 41.9% of the pediatric patients all of whom were males had hernias/ communicating hydroceles with both conditions emerging as the commonest in these patient groups.

A diagnosis of urolithiasis was made in 24 (1.1 %) of the overall patient population and of this number, half had

Table 1:

	Adults		Children	
	Male	Female	Male	Female
Number	1903	140	122	2
% of Study population	87.8	6.5	5.6	0.1
Age range	18–72 yrs	22–55 yrs	1 month –12 yrs	11–12 yrs
Mean age (SD)	44.4 (15.84)	33.4(8.96)	≤ 1year: 6.9months (3.0)	≥1year: 2.9 yrs (2.25) 11.5 yrs (0.7)

Table 2: Urologic Conditions seen in Male and Female Children

Male Children	No	% of All Patients seen
Posterior urethral valve	1	0.05
Penoscrotal transposition	1	0.05
Groin hernia/Hydrocele	52	2.4
Hypospadias	47	2.2
Pelviureteric junction obstruction	2	0.1
Maldescended testis	10	0.5
Testicular Torsion	9	0.4
Total	**122**	
Female Children		
Enuresis	1	0.05
Wilm's Tumor	1	0.05
Total	**2**	

Table 3: Urologic Conditions seen in Adult Females

Urologic Conditions	No	% of All Patients seen
Pyelonephritis	1	0.05
Renal calculi	1	0.05
Ureteric calculi	4	0.2
Bladder calculi	2	0.1
Renal and ureteric calculi (both)	2	0.1
Renal/Ureteric colic (without radiologically confirmed urinary tract calculi)	96	4.4
Acute urinary retention	2	0.1
Overactive bladder syndrome	3	0.12
Stress urinary incontinence	4	0.2
Retroperitoneal fibrosis	1	0.05
Renal cysts (simple)	19	0.9
Ectopic pelvic kidney	1	0.05
Total = 140		

Table 4: Urologic Conditions seen in Adult Males

Urologic condition	No	% of All Patients seen
Oligospermia/OAT syndrome/Azoospermia and Varicocele-induced sperm abnormalities	521	24.0
Benign prostatic enlargement	327	15.1
Erectile dysfunction	239	11.0
Renal/ Ureteric colic (without radiologically confirmed urinary tract calculi)	162	7.5
Urinary tract infection (uncomplicated)	126	5.8
Primary Testicular failure	15	0.7
Urethral stricture disease	24	1.12
Acute pyelonephritis	6	0.3
Chronic prostatitis/chronic pelvic pain syndrome	38	1.75
Urolithiasis	14	0.65
Post-traumatic renal injury	2	0.1
Post-traumatic urethral injury	10	0.5
Testicular torsion	24	1.1
Epididymoorchitis	52	2.4
Acute urinary retention	38	1.75
Priapism	2	0.1
Founiers gangrene	5	0.23
Impacted urethral catheter	24	1.1
Traumatic urethral catheterization	30	1.4
Overactive bladder (+/- urge incontinence)	86	3.96
Carcinoma of prostate	84	3.87
Testicular cancer	1	0.05
Premature ejaculation	21	0.9
Pelviureteric junction obstruction	5	0.23
Peyronie's Disease	2	0.1
Simple renal cysts	25	1.15
Ectopic pelvic kidney	1	0.05
Post-prostatectomy incontinence	1	0.05
Total = 1903		

ureteric calculi on intravenous urography. Although more than half the patients seen in the emergency room (n=258) had loin and or colicky loin to groin pains, no urinary tract calculi was seen on their intravenous urograms (IVU).

A total of 327 cases of benign prostatic enlargement (BPE) were seen while malignant genitourinary tract tumors (prostate cancer – 84, testicular cancer – 1 and Wilm's tumor – 1) accounted for 3.94% of all cases managed during the period.

A significant proportion of male patients (91 %, n=239) presenting with sexual dysfunction had erectile dysfunction (ED), 21(8%) had premature ejaculation (PE) and Peyronie's disease was seen in only 2(1 %) patients.

There were 92 cases of voiding dysfunction accounting for 4.2% of all the cases seen. Of this number 86 (93.4%) had features of overactive bladder syndrome (OAB) with associated urge incontinence in some instances.

DISCUSSION

Dawam *et al.*[3] in their study observed that urological surgery contributed a significant proportion of surgical workload citing a rise in percentage of urological procedures done in their institution in Northern Nigeria over a 28-year period from 5.6% to 30.9%. This view was further corroborated in the work by Eke *et al*[4] where urological operations constituted 22.6% of all surgical operations in their hospital during a decade under review. However, no references were made by these workers to the volume of urology consultations made in the respective periods.

Perhaps, an increasing surgical workload on the urologist is also a reflection of an equally rising volume of patients with urological conditions seen. This study is an attempt to fill this information gap.

The five most common urologic conditions accounting for about 72% of all adult male cases seen in this study were oligospermia/oligoasthenoteratospermia (OAT) syndrome/azoospermia and varicocele-induced sperm abnormalities, BPE, ED, possible renal/ureteric calculi and urinary tract infections (UTI's).

Five hundred and thirty six patients were seen with male factor infertility .Of this number, the larger majority (n= 435) had sperm abnormalities for unexplicable reasons. In 16% (n–86), the sperm abnormalities were induced by the presence of demonstrable varicocele while only 15 (3 %) had histologically confirmed primary testicular failure.

Prior trauma was responsible for the majority of patients presenting with urethral strictures. This is not different from the finding by Aghaji and Odoemena[5] who reported the following pattern in 144 patients with urethral strictures: post-traumatic (43.8%), inflammatory (36.1%) and iatrogenic (13.5%).

In a recent survey, Kennedy and workers[6] identified a high level of clinical knowledge amongst primary care doctors treating children with UTI in the catchment area of County Mayo. The survey also demonstrated wide variation in practice with regard to detailed investigation and specialist referral with a prevalence of the common practice of prescribing long courses of antibiotics when treating lower urinary tract infections. This may account for the reason why in our series, no adult female or children with UTI were seen as they may have already been treated by the primary care physician. Of all the patients presenting with lower urinary tract infections-all adult males (n=164), 76.8% had uncomplicated UTI while the remainder had chronic prostatitis/chronic pelvic pain syndrome.

Until recently, sexual dysfunction was rarely identified as a significant morbidity nor considered treatable.[7] In our study, we found ED at 91% to be the commonest presentation in males with sexual dysfunction. This large number of patients seeking treatment is possibly a response to the availability and increased awareness of effective oral phosphodiesterase 5 inhibitors (PDE5i) for ED.

This finding is however different from what was observed in a recent study on sexual dysfunction by Adegunloye and Ezeoke[8] who found the following prevalence rates in their study population: female anorgasmia (40%), lubrication failure (30%), dyspareunia (12%), erectile dysfunction, premature ejaculation, male orgasmic disorder (23% each), loss of sexual desire (24%), sexual life dissatisfaction (10%) and relationship dissatisfaction six months prior to interview (10%).

The strict diagnostic criteria for premature ejaculation (PE) which is intravaginal ejaculatory latency time (IELT) of less than 1 minute[9] could only be applied in another 21 (8%) patients.

The other significant urologic condition seen in this series was voiding dysfunction accounting for 4.2% (n=92) of all the cases. Ninety three percent of this number (n=86) had features of overactive bladder syndrome (OAB) with associated urge incontinence in some of the cases with. There was only one case of post-operative incontinence after open retropubic prostatectomy.

There are no reports of voiding dysfunction in Nigeria. A recent surge of interest on the subject has uncovered the dramatic effect that OAB can have on social interactions, sleep, depression, sexual health, and overall health-related quality of life (HRQoL).[10]

Since most epidemiologic surveys focus on urge incontinence without considering urgency and frequency without incontinence, epidemiologic data concerning OAB are not available in the local population.

Finally, urologic emergencies accounted for 21.6% (n= 470) of all cases in our series. More than half of those presenting in this category (n=258) had loin pains, loin to groin pains or a combination of both and a clinical diagnosis of renal/ureteric colic from urinary calculi was entertained in them. Furthermore, 77.5% (n=200) of these patients had microscopic hematuria on urinalysis while all 258 patients had varying degrees of hydrocalycosis on renal ultrasonography. No urinary calculi was detectable on all the renal scans or IVU nor was there a positive urine culture for bacteria in all of these patients.

A computerised tomographic (CT) urogram which has high sensitivity and specificity for detecting urinary tract calculi was requested for further investigation of the loin pain in these patients. Unfortunately, none of them could afford the prohibitive cost of the investigation. This situation was an obvious limitation to our management of these patients as well as on our study since a definitive radiological diagnosis could not be made in them. All patients were however managed conservatively on analgesics, intravenous and subsequently liberal oral fluids and they all recovered uneventfully with the presumption that the calculi may have passed into the bladder and voided in urine during the course of treatment.

The acute scrotum constituted a further 18% (n=52) of the emergency room cases seen in our series. Adult male patients presenting with acute scrotum had epididymoorchitis (EO) and testicular torsion (TT) implicated as the cause in 52 (100 %) and 24 (73%) of them respectively while all 9 children with acute scrotum had testicular torsion. This is akin to the results by Abul *et al*[11] who found in their series of 40 cases that EO (n = 24) was the commonest cause of acute scrotum followed by TT (n = 11), TTA (n = 4), and idiopathic scrotal edema (n = 1).

This study reflects a fairly broad range of urologic conditions seen by a single urologic surgeon and was additionally limited by the inability to completely retrieve all the case notes of the patients seen in this series. This limitation did not however affect the study results as all the relevant data were successfully extracted from the dedicated service registers kept for this purpose.

There are not enough personnel with the requisite skills to deal with the presenting urological conditions and substantial material resources such as endourologic surgical equipments and consumables to improve care are still unavailable in these health facilities.

Until recently, most urological surgeries in Nigeria were performed by general surgeons but the rising prevalence of specific urological diseases in the population such as male and female sexual dysfunction, voiding dysfunction and other congenital conditions requiring complex reconstructive procedures coupled with a rising awareness amongst patients seeking specialist urologic care have made it imperative for the few urologic surgeons currently serving the Federal Capital Territory population to expect an even heavier burden of care.

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REFERENCES

1. Akporiaye LE, Oguike TC, Evbuomwan I. Genitourinary reconstruction in Southern Nigeria. *WAJM* 2009; **28:** 126–129.
2. Kasonde B. An overview of the diagnosis and management of Prostate cancer in Nigeria: Experince from a North central State of Nigeria. *Ann Afr Med* 2010; **9:** 111–112.
3. Dawam D, Kalayi GD, Muhammad I. Urological Surgery at a major Teaching Hospital in Northern Nigeria-review and challenges for the 21st Century. In: Solanke TF, Adebamowo CA ,(Editors). Proceedings of the Second General Assembly of the Pan African Association of Surgeons (PAAS) Jan 1998, Ibadan, Nigeria 1998.pg 107–117.
4. Eke N, Sapira MK, Echem RC. Spectrum of urological procedures in University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria. *Niger J Clin Pract*. 2007; **10:** 74–8.
5. Aghaji AE, Odoemena CA. One stage urethroplasty for strictures: Nigerian experience. *Int J Urol* 2001; **8:** 380–5.
6. Kennedy KM, Glynn LG, Dineen B. A survey of the management of urinary tract infection in children in primary care and comparison with the NICE guidelines. *BMC Fam Pract.* 2010; **26:** 11–6.
7. Moreira ED, Brock G, Glaber BD, Nicolosi A, Laumann EO, Paik A,Wang T, Gingell C. Help-seeking behaviour for sexual problems: The Global Study of Sexual Attitudes and Behaviours. *Int J Clin Pract* 2005; **59:** 6–16.
8. Adegunloye OA, Ezeoke GG. Sexual Dysfunction-A Silent Hurt: Issues on Treatment Awareness. *J Sex Med* 2011; **8:** 1322–1329.
9. Segraves RT. Considerations for an evidence-based definition of premature ejaculation in the DSM-V. *J Sex Med.* 2010; **7:** 672–9.
10. Epstein LB, Goldberg RP. The over-active bladder and quality of life. *Int J Fertil Womens Med.* 2005; **50:** 30–6.
11. Abul F, Al-Sayer H, Arun N.The acute scrotum: a review of 40 cases. *Med Princ Pract.* 2005; **14:** 177–81.