

Disease Pattern of Patient Admissions in the Urology Department, Al-Hussein University Hospital: A retrospective study of 1000 cases

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Abstract: Purpose: To determine the types of urologic diseases among 1000 consecutive admissions to Urology Department, at Al-Azhar University Al- Hussein Hospital. Demography and disease pattern of this admission were determined. **Materials and Methods:** This retrospective study included 1000 case (nearly complete data) who were admitted to Urology Department at Al Hussein Hospital Al-Azhar University in the period between 1990 and 2005. Collected clinical, radiological, operative and demographical data will be uploaded in an excel sheet and transferred to SPSS. Categorical variables are expressed in numbers and percentage while continuous variable are defined in terms in means and standard deviation. Consecutive 1000 cases will be collected into the study. The main items of the results will be expressed in the following categories according to diagnosis. **Results:** Among whole cases under study: The age groups were classified into two main groups; children group (205 cases, with mean age 6.15 years) and adult group (795 cases, with mean age 49.6 years) with male to female ratio = 76:24. Cases in our study were categorized according to diagnosis into main categories as following, bladder cancer, prostate cancer, kidney cancer, male reproductive health, pediatric urology, BPH & LUTS, trauma, urethral diseases, urinary tract infection, urinary incontinence, urolithiasis. **Conclusions:** Medical statistics is very important in medical field as it facilitates assessment and follow up of the patient. Hospital admission data can be a valuable tool for assessing the epidemiology of diseases within populations.

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1. Introduction

The burden of urological diseases is immense in human and financial terms, and until now it has remained largely unquantified. Urological diseases encompass a wide scope of illnesses that can occur at any point in the course of human development. Acute and self-limited or chronic and debilitating, they may affect quality and quantity of life, and may be financially insignificant or catastrophic. **1.**

Physician practice patterns for treating patients with urological conditions have evolved substantially during recent years records his data and the development or improves his condition. **1.**

Accurate information on the epidemiology and impact of urological diseases is critical to the equitable allocation of scarce resources at the national, state and local levels. In conjunction with findings from clinical studies and basic research an epidemiological approach offers insights on the prevalence, etiology and impact of urological conditions. This information can provide the basis for planning health care services and intervention programs. **2.**

However, reliable and valid health services data about urological diseases have been scattered and inconsistent. Despite the capabilities of the information age there is no national surveillance

system describing prevalence and incidence across all urological diseases. Instead, various government and nongovernment agencies in the United States maintain a patchwork of population based studies, observational cohorts, national interview surveys, reviews of physician practice patterns, hospital system databases, cancer registries, state health department health information systems, and federal, state and private insurance claims based datasets that can provide useful health statistics. These information sources contain a wealth of epidemiological and health services information about health care costs, access and quality as well as trends in the diagnosis and management of urological diseases. However, these sources have remained largely untapped. **3.**

2. Materials and Methods

This retrospective study included 1000 case (nearly complete data) who were admitted to Urology Department at Al Hussein Hospital Al-Azhar University in the period between 1990 and 2005. Approval of the study protocol was done by the department scientific committee. Ethical commit approval was obtained by Al-Azhar faculty of medicine at July 2016.

Collected clinical, radiological, operative and demographical data will be uploaded in an excel sheet and transferred to SPSS. Categorical variables are expressed in numbers and percentage while continuous variable are defined in terms in means and standard deviation. Consecutive 1000 cases will be collected into the study. The main items of the results will be expressed in the following categories according to diagnosis.

Data will be stratified according to age and gender of the patient, clinical presentation, associated co-morbidity, geographical distribution, available imaging studies, laboratory investigation, types of operation, hospital stay duration and postoperative complication.

Variables Studied and Statistical Analysis

The collected data were revised, organized, tabulated and statistically analyzed using statistical package for social sciences (SPSS) version 23.0 for windows. Data were presented as mean \pm standard deviation (SD), frequency, and percentage. Categorical variables were compared using the chi-square (χ^2) and Fisher's exact tests (if assumed) with Phi and Cramer's V analysis to detect the degree of association between the variables. Continuous variables were compared using Student t test (two-tailed) and one – way ANOVA test with Tukey post hoc to detect the difference between subgroups for normally distributed data. Mann-Whitney U and Kruskal – Wallis tests for nonparametric data. Correlation and regression analysis was used to detect the linear relation between the continuous variables. The level of significance was accepted if the P value < 0.05. All results are honestly provided from the original received data without any interference.

3. Results

Among whole cases under study: The age groups were classified into two main groups; children group (205 cases, with mean age 6.15 years) and adult group (795 cases, with mean age 49.6 years) with male to female ratio = 76:24.

Cases in our study were categorized according to diagnosis into main categories as following, bladder cancer, prostate cancer, kidney cancer, male reproductive health, pediatric urology, BPH & LUTS, trauma, urethral diseases, urinary tract infection, urinary incontinence, urolithiasis. (Table 1).

The most organs affected in the study were the ureter (346 cases) then the urinary bladder (227 cases) then the kidney (223 cases) (Table 2).

Smoking is the most important special habit in our study, 237 cases were smoking. And most of them were under the category bladder cancer (157 cases).

599 of cases under the study associated with co morbidity, and the most one was DM then HTN (Table 3).

461 case under the study had follow up and the rest of cases were lost according to available data.

Cases of cancer bladder had the longest hospital stay periods while the shortest hospital stay periods was cases of male reproductive health. (Table 4).

4. Discussion:

The Department of Urology at Al-Hussein Hospital in Al-Azhar University is one of the largest sections of urology all over the Arab Republic of Egypt, where the department began work in 1967 by means of a number that does not exceed the fingers of the one hand of the faculty members, recruits and resident doctors.

The Department's activities have varied and increased since then to include many therapeutic, diagnostic, educational, training and research services. The annual conferences, symposia and workshops were organized by a bright sign of the.

Table 1: Main categories according to diagnosis

No	Category	Frequency	Percent
1	Bladder cancer	173	17%
2	Prostate cancer	6	1%
3	Kidney cancer	8	1%
4	Male reproductive health	39	4%
5	pediatric urology	172	17%
6	BPH & LUTS	44	4%
7	Trauma	11	1%
8	Urethral diseases	30	3%
9	Urinary incontinence	16	2%
10	Urinary tract infection	17	2%
11	Urolithiasis	484	48%

Table 2: Organs Involved

Organ	Frequency	Percent
Bladder	227	22.7%
Kidney	223	22.3%
Penis	10	1.0%
Perineal	1	0.1%
Prostate	48	4.8%
Scrotum	14	1.4%
Testes	43	4.3%
Ureter	346	34.6%
Urethra	88	8.8%

The department consists of approximately 40 internal beds, a unit of fragmentation of stones, a sound wave unit, a dynamic urination and three operating rooms equipped to the highest level, supervised by more than fifty professors and faculty members.

Like other studies done 4,5, we faced important challenges in our analytical endeavors. Foremost among them was the limited amount of data available on conditions in pediatric urology, particularly the lack of information on the costs of pharmaceutical and medical services.

Table3: Co-morbidities of patients under the study

Co morbidity	Number of cases	Percent
None	401	40.1%
HTN	100	10.0%
Hypothyroidism	1	0.1%
IHD	71	7.1%
multiple congenital anomalies	1	0.1%
DM	208	20.8%
Cardiac	1	0.1%
Bilharziasis	1	0.1%
cancer cervix	1	0.1%
CP	2	0.2%
DM + HTN	201	20.1%
DM+HTN+IHD	1	0.1%
HCV	11	1.1%

Table 4: Hospital stay periods:

Category	N	Mean of Hospitality stay (Days)	Std. Error
Bladder cancer	173	10	0.3
Prostate cancer	6	4	0.5
Kidney cancer	8	8	1.3
Male reproductive health	39	3	0.1
pediatric urology	172	5	0.2
BPH & LUTS	44	6	0.3
Trauma	11	5	0.4
Urethral diseases	30	9	0.6
Urinary incontinence	16	5	1.0
Urinary tract infection	17	5	0.8
Urolithiasis	484	5	0.1

In all about 18000 patients were admitted to urology department at Al Hussein hospital Al-Azhar University nearly 1000 patient selected as they had a complete files that contain clinical, radiological, laboratory, demographical, and operative data.

In all 1000 cases of study there were 795 cases were adult 79.5% and 205 cases were children 20.5%.

Cases in our study were categorized according to diagnosis into main categories as following, bladder cancer173cases, prostate cancer 6cases, kidney cancer 8cases, male reproductive health39cases, pediatric urology172cases, BPH & LUTS44cases, trauma11,

urethral diseases30, urinary tract infection16, urinary incontinence17, urolithiasis484.

According to organs under the study the most organs affected was the ureter 346 cases, urinary bladder 227 cases, kidney 223 cases, urethra88.

According to special habits Smoking is the most important special habit in our study, 237 cases were smoking. And most of them were under the category bladder cancer (157 cases).

According to co morbidity of the patient under the study 599 case had co morbidity as following DM208 cases, HTN & DM 201 cases, HTN 100 cases, IHD 71 cases.

In our study there were different methods of radiological investigation most of cases diagnosed by U\S, KUB, and MSCT.

According to available data in the study we noted that Giza was the most area affected by urologic diseases166cases while Behera was the least 19 cases.

Conclusion

Medical statistics is very important in medical field as it facilitates assessment and follow up of the patient. Hospital admission data can be a valuable tool for assessing the epidemiology of diseases within populations.

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