Assessment of Urinary Complications and Drug Induced Effects in the Department of Urology in Teritary Care Teaching Hospital

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Abstract

Urology: The branch of medicine and physiology concerned with the function and disorders of the urinary system. It deals with disease of the male and female urinary tract i.e., kidneys, ureters, bladder and urethra. It also deals with male organs such as penis; testes; scrotum; prostate. The Urinary system consists of two kidneys, two Ureters and one Urethra.**Urology Department:** A urologist is a physician who specializes in diseases of the urinary tract and the reproductive system. It has seven sub specialist areas: 1.Pediatric Urology 2.Urological Oncology3. Renal Transplantations 4.Maleinfertility 5.Calculi 6. Female Urology 7.Neuro Urology.

Materials and Methods : Place of Study: The study "Assessment of Urinary Complications and Drug Induced Effects in Department of Urology in a Tertiary Care Teaching Hospital" which was carried in patient wards of "Urology Department" IP at Narayana Hospitals, Nellore, in collaboration with a 1440 bedded multidisciplinary teaching hospital.

Discussion: In our study, out of 510 patients 450 are willing to provide the information in which maximum are females 275(61.1%) and minimum were males 175(38.8%) **Conclusion**: Our study concluded that most of the people (or) patients in the urology department due to urinary complications were arised by using urology questionnaire and drug induced complaints are also estimated. Out of this the mainly some of the drugs are inducing urology problems in the patients. Some methods and surgical procedures are performed. It is cluster for the health care professionals and clinical pharmacist to reduce the patient in view of health condition in which, it is beneficial for the health outcome. Mostly, Clinical pharmacist should educate the patients regarding conditions and treatment to be effective.

***Key words**: Urinary Complications, hyperplasia, renal calculi, renal transplantation.*

Introduction

Urology: The branch of medicine and physiology concerned with the function and disorders of the urinary system. It deals with disease of the male and female urinary tract i.e., kidneys, ureters, bladder and urethra. [1,2]It also deals with male organs such as penis; testes; scrotum; prostate. The Urinary system consists of two kidneys, two Urethras and one Urethra [1]

Urology Department: A urologist is a physician who specializes in diseases of the urinary tract and the reproductive system.[3,4]

Assessment: It is the evaluation of the health status by performing a physical exam after taking a health

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history.

Complications: A secondary disease or a condition that develops in course of a primary disease or condition and arises either as a result of it or from independent causes.

Drug Induced Effect: The unintended effect of a drug that results in mortality or morbidity with symptoms sufficient to prompt a patient seek medical attention and to require hospitalization and may persist even after the offending drug has been withdrawn.[4,5]

Tertiary care Hospital: It is a hospital that provides tertiary care from specialists in a large hospital after referral from primary care and secondary care.

Materials and methods

Place of Study: The study **"Assessment of Urinary Complications and Drug Induced Effects in Department of Urology in a Tertiary Care Teaching Hospital"** which was carried in patient wards of **"**Urology Department**"** IP at Narayana Hospitals, Nellore, in collaboration with a 1440 bedded multidisciplinary teaching hospital,

Study Design: The study was prospective observational study conducted in the inpatients ward of Urology Department of tertiary care teaching hospitals.

Study Population: This study was conducted in 450 patients who are suffering with Urological Complications and Drug Induced Effects in Department of Urology.

Study Duration: This study was conducted for a period of 6 months.

Study Criteria: Patients are considered for the study based on inclusion and exclusion criteria.

Inclusion Criteria:

1. All the patients suffering with different types of Urological Complications and Drug Induced Effects in Department of Urology.

2. Patient age group in between 20 to above 60yrs.

3. Patients with co-morbid conditions.

4. Who are willing to provide the information?

5. Past history of renal problems.

6. Patient dependent upon medication.

Exclusion Criteria:

• Pregnancy women.

• Lactating women

• Lack of interest to provide information.

• Pediatrics.

• Whose verbal communication was poor.

• Unconscious patients.

• Mentally retarded patients.

Study Material:

• Patient informed consent form.

• A specially designed Urology questionnaire

STUDY METHOD: The study was conducted after obtaining the permission from Head of the institution and Head of Department of Urology.

The data for the study will be collected by **"Patient Chart Review Method",** which is well suited to identify all the necessary and relevant baseline information, which will be collected on a specially designed patient data questionnaire on respiratory tract infections.

Results

Table-1 Shows Reasons for admission in the Department of Urology for their condition

Reasons for admission	No of Patients	Frequency
1. Blood in urine:		
a) Bladder infection	20	4.4%
b)Kidney infection	20	4.4%
c) kidney stones	140	31.1%
d) Bladder cancer	10	2.2%
e) kidney cancer	5	1.1%
g) prostate cancer	5	1.1%
2. poor bladder control	10	2.2%
3. Painful Urination:		
✳Bladder stones	40	8.8%
✳ Chlamydia	5	1.1%
✳ Cystitis	5	1.1%
✳ STDS	5	1.1%
✳ Prostate Inflammation	5	1.1%
✳Vaginal infection	15	3.3%
✳Yeast Infection	5	1.1%
4. Pain in Lower stomach, side of back or groin region		
♦Severe pain;	40	8.8%
♦Moderate &mild	20	4.4%
♦Nausea, Vomiting Fever	15	3.3%
5.Fallen Bladder Protrusion:		
1)Age:	5	1.1%
2)Obesity:	5	1.1%
3)Vaginal child birth	0	0%
4)Weakened muscles	0	0%
6.Hernia	10	2.2%
7.Male sexual problems	0	0%
8.Over active bladder	15	3.3%
9.HTN, DM	35	7.7%
10.other disease condition	5	1.1

Table-2 Shows Drug Induced Urinary complications in the patients of Urology department

Drug induced Urinary Complications	No of Patients	Frequency
1. Phenothiazine		
a.Perphenazine (Irilafon)	25	5.5%
b.Mesoridazine (Serentil)	20	4.4%
c.Promazine (Robinnl)	5	1.1%
2. Cyclophosphamide (Cytoxan)	70	15.5%
3. Ifosfamide	10	2.2%
4. Cocaine	15	3.3%
5. Papaverine induced priapism	10	2.2%
1. Risperidone (Risperidol)	25	5.5%
2. Clozapine (Clozaril)	30	6.6%
3. Disopyramide (Norpace)	35	7.7%
4. Flecainide (Tambocor)	10	2.2%
5. Hyoscine Butyl Bromide (Buscopan)	15	3.3%
6. Amantidine (Symmentrel)	20	4.4%
Astemizole (Hismanal)	15	3.3%
7. Ipratropium (Atrovent)	15	3.3%
8. Fluoxetine (Prozac)	10	2.2%
9. Atropine (Atropen)	20	4.4%
10. Benztropine Mesylate (Cogentin)	15	3.3%
11. Fesoterodine (Toviaz)	10	2.2%
12. Clonazepam (Klonopin)	25	5.5%
13. Diazepam (Valium)	10	2.2%
14. Methylenedioxymetnamphetamine (Ecstasy)	15	3.3%
15. Pramipexole (Mirapex ER)	10	2.2%
16. Morphine (Avinza)	15	3.3%

Table 3: Shows urinary complications in the patients of Urology department

Urinary Complications	No of Patients	Frequency
1.Acute kidney disease	20	4.4%
2.Chronic kidney disease	30	6.6%
3.Urinary incontinence	10	2.2%
4.Urolithiasis	40	8.8%
5.Kidney stones	140	31.1%
6.Urinary tract infections		
a. Cystitis	20	4.4%
b. Urethritis	10	2.2%
c. Pyelonephritis	5	1.1%
7. Prostatitis	10	2.2%
8. Vaginal Candidiasis	20	4.4%
9.Fallen bladder protrusion	5	1.1%
10.Over active bladder	10	2.2%
11.Fascia (Hernia)	10	2.2%
12.HTN, DM	35	7.7%
13.CKD with Palmar Psoriasis	5	1.1%
14.Atrophic Rt kidney with Endometrial polyp	5	1.1%
15.PUJ Obstruction With Congenital Hydronephrosis	10	2.2%
16.CKD -v stage with chronic alcoholism	5	1.1%
17.Distal Penile hypospadias	5	1.1%
Renal cell carcinoma/ Kidney cancer	5	1.1%
Obstructive Uropathy with Grade-II	5	1.1%
prostomegaly	5	1.1%
20.Bladder cancer	25	5.5%
21. Prostate cancer	5	1.1%
22. Congenital Urological Anomalies	10	2.2%
23.Bladder stones		

Table 4 Shows Drug used in Department of Urology for Better outcomes

Drugs for urinary complications	No of patients	Frequency
1.Tab.staphenex (Flucloxacillin)	100	22.2%
2.Tab.Rantac(Ranitidine)	250	55.5%
3.Tab. Calpol(Paracetmol)	375	833%
4.Tab.Chymorol forte(Multi vitamins)	275	61.1%
5.Tab.Cifran-TZ(Ciprofloxacin)	50	11.1%
6.Tab.Mucomix-ET(Acetyl cysteine)	75	16.6%
7.Tab.Rabium-DSR(Rabiprazole)	300	68.8%
8.Tab.Clopitab(Clopidogrel)	250	55.5%
9.Tab.Sevelamer(Sevelamer)	100	22.2%
10.Tab.Febugut(Febuxostat)	175	38.8%
11.Tab.Fexofenadine(Allegra)	100	22.2%
12.Tab.Reclide(Gliclazide)	200	44.4%
13.Inj.cefglobe(Cefoperazone &Sulbactam)	350	77.7%
14.Tab.Cilacar(Cilnidipine)	250	55.5%
15.Tab.Shelcal(Calcium carbonate and vitamin D2)	200	44.4%
16.Tab.Metrogyl(Metronidazole)		
17.Syrup.Cremafine(Magnesium	350	77.7%
hydroxide+Parrafin)	125	27.7%
18.Syrup.Reswal(chlorpheniramine malate)	50	11.1%
19.Tab.Amlong(Amlodipine)	250\	55.5%
20.Tab.Sobosis(sodium bicarbonate)	325	72.2%
21.Tab.Veltam(Tamsulosin hydrochloride)	60	13.3%
22.Tab.Telma kind (Telmisartan)	210	46.6%
23.Inj.Tramadol(Ultram)	260	57.7%
24.Inj.Emeset(Ondansetron)	275	61.1%
25.Inj.Amikacin(Amikin)	310	68.8%
26.Syrup.Taxim(Cefotaxime)	220	48.85%
27.Syp.P125(Paracetamol)	75	16.6%
28.Syrup.Ibugeric plus (Ibuprofen)	50	11.1%
29.Tab.Faronem(Fraenum)	65	14.4%
30.Tab.Nicardia-R(Nicardipine)	175	38.8%
31.Tab.Voglistar(Voglibose)	200	44.4%
32.Tab.Supradyn(Multi vitamin)	175	38.8%

Table: 5 Shows Class of Drugs used in Department of Urology

Classes of drugs for urinary complications	No of patients	Frequency
1.Drugs with anti - cholinergic properties 2.Alpha-	20	4.4%
adrenergic Blockers	5	1.1%
3.Calcium channel blockers	100	22.2%
4. Anti-neoplastic	50	11.1%
5. Anti-depressants	10	2.2%
6. Diuretics	0	0%
7. Antibiotics	75	16.6%
8. Anti-viral drugs	10	2.2%
9.Anti hypertensives	75	16.6%
10. (NSAIDS) Non-steroidal anti-inflammatory drugs	10	2.2%
11. Fluoroquinolone's	5	1.1%
12. Anti-epileptics	0	0%
13. Calcium supplements	10	2.2%
14. Proton pump inhibitors	25	5.5%
15. Statins	0	0%
16. Anti-anginal drugs	0	0%
17.Anti-coagulants	0	0%
18. Anti-platelets	0	0%
19. Anti-psychotics	5	1.1%
20. Anti-diabetics	50	11.1%
21. Anti- histamines	0	0%

Table: 6 Shows Surgical procedures performed in Urology Department to Overcome the Urinary Complications

Surgical procedure	No of patients	Frequency
1.Urethral Catherization	75	16.6%
2.Endoscopic Procedures		
a. Bladder	25	5.5%
b. Prostate	30	6.6%
c. Urethra	25	5.5%
d. Ureter	25	5.5%
3.Open procedures on the Foreskin		
a. Vas	15	3.3%
b. Bladder instillation	15	3.3%
c. Prostatic biopsy	20	4.4%
4. Laser therapy		
a. BPH cancer	10	2.2%
b. Kidney Stones	25	5.5%
5. Laparoscopy	20	4.4%
6. Urodynamic Evaluation	25	5.5%
7. TRUS/BX of Prostate Endoscopy	35	7.7%
8.SWL and other Lithotripsy Techniques	25	5.5%
9.Cystectomy	10	2.2%
10.Anti-Incontinence Procedures	25	5.5%
11.Urinary Diversion	10	2.2%
12.Prosthetics	25	5.5%
13.Micro Surgical technique	10	2.2%

Discussion

In our study, out of 510 patients 450 are willing to provide the information in which maximum are females and minimum were males and with different age groups are considered for the study out of which more than year old are suffered with Urinary tract problems, 51-60yrs suffered equal to that of older and rest was found to be 1-30 yrs. Environmental factors of the patient was and least was found to be Better and Nutritional status of the patient was found to be and minimum was Better and also Hygienic conditions also analysed by using Questionnaire which shows maximum were Poor and minimum were better and all the people belongs to Indian , Employment rate was found to be maximum was Employed and Un employed with marital status of Married were and last was unmarried. Reasons for admission in the hospital is mainly due to different types of problems like Kidney stones, Burning michuration, Prostate inflammation, Pain in lower stomach, side of back or groin region.

Different types of drugs induced urinary complications in the patients are many due to cyclophosphamide, Disopyrimide, Clozapine, perphenazine, Clonazepam, Mesoridazine, Amantadine, Atropine, Cocaine, Hyoscine, Astemizole, Ipratopium, Benztropine, Amphetamine, Morphine, and the least were found to be Ifosfamide, Papaverine, Flecanide, Fluoxetine, Fesoterodine, Diazepam, Pramipexole.

Complaints observed in the department of Urology with different diseases were identified in which maximum were kidney stones Urolithiasis HTN, DM, Chronic kidney disease, Prostate cancer, Acute kidney disease, Cystitis, Vaginal candidacies, Urinary incontinence, Urethritis, Prostatitis, Overactive bladder, Fascial PUG obstruction with congenital hydronephrosis, Bladder stones , and the least were Pyelonephritis, Fallen bladder protusion, CKD with palmar psoriasis, Atrophic right kidney with endometrial polyp, CKD carcinoma or kidney cancer, Obstructive uropathy with grade2-prostomegaly, Bladder cancer, Congenital urological anomalies and different drugs used in the department of urology and different drugs used in the department of urology for better outcomes were maximum Tab. Paracetamol, Tab. Cefoperazone, sulbactum, Tab.Metronidazole, Tab.Sodiumbicarbonate, Inj.Amikacin, Tab.Rabeorazole, Inj.Ondansetron, Tab.Chymoral, Inj.Tramadol, Tab.Ranitidine, Tab. Clopidrogrel, Tab.Cilnidipine, Tab.Amlodipine, Syp. Cefotaxime, Tab.Telmisartan, Tab.Voglibose, Tab. Glicazide, Tab.Calciumcarbonate&vitaminD2, Tab. Febuxostat, Tab.Nicardipine, Tab.Multivitamin, Syp. Magnesiumhydroxide&paraffin, Tab.Flucloxacillin,

Tab.Sevelamer, Tab.Acetylcystenie,Syp. Paracetamol, Tab. Fraenum, Tab. Tamsulosin hydrochloride and the least were found to be Tab. Ciprofloxacin, Tab. Chlorpheniramine maleate, Syp.Ibuprofene.

Different types of surgical procedures performed in the department for Urinary complications are Urethral Catherization, TRUS/BX endoscopy, prostateendoscopy, Bladderendoscopy, Urethraendoscopy, Ureterendoscopy, Kidneystones, Urodynamic evaluation, SWL and other lithotripsy, Anti incontinence procedure, Prosthetics, Laproscopy, Prostatic biopsy, vas, Bladder instillation and the least were found to be BPH cancer laser therapy, Cystectomy, Urinary diversion, Micro surgical technique.

Conclusion

Our study concluded that most of the people (or) patients in the urology department due to urinary complications was arise by using urology questionnaire and drug induced complaints are also estimated. Out of this the mainly some of the drugs are inducing urology problems in the patients. Some methods and surgical procedures are performed. It is cluster for the health care professionals and clinical pharmacist to reduce the patient in view of health condition in which, it is beneficial for the health outcome. Mostly, Clinical pharmacist should educate the patients regarding conditions and treatment to be effective.

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Conflict of Interest: Yes

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Ethical Committee Approval: We have Memorandum of Understanding with Narayana Medical College and Hospitals to conduct the Study.

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