|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
NLM (National Library of Medicine ID: 101738825)
Index Copernicus Value 2018: 75.71
Review Article
Volume 4, Issue 6; June: 2020; Page No. 17-19

TO STUDY THE SOCIO-ECONOMIC AND CLINICAL PROFILE OF URINARY STONES PATIENTS AT INDIRA GANDHI MEDICAL COLLEGE AND HOSPITAL, SHIMLA

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Article Info: Received 06 May 2020; Accepted 01 June 2020
DOI: https://doi.org/10.32553/ijmbs.v4i6.1166
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Conflict of interest: No conflict of interest.

Abstract
Background: Urolithiasis affects about 12% of the world population at some stage in their lifetime. It affects all ages, both sexes and races but occurs more frequently in men than in women within the age of 20–49 years.
Methods: The study was conducted over a period of one year from July 2017 to June 2018 in urolithiasis patients admitted in the Department of General Surgery and Urology at IGMC Shimla.
Results: Study population consisted total of 100 patients (M=61, F=39). Majority of the patients were in the age group of 30-45 years (n=42). Minimum and maximum age at presentation were 11 years and 74 years respectively.
Conclusion- We conclude that in our study maximum patients were young male and non- vegetarian.
Keywords: Age, Sex, Non- vegetarian.

Introduction

Globally, kidney stone disease prevalence and recurrence rates are increasing[1], with limited options of effective drugs. Urolithiasis affects about 12% of the world population at some stage in their lifetime[2]. It affects all ages, both sexes and races[3-4] but occurs more frequently in men than in women within the age of 20–49 years[5]. If patients do not apply metaphylaxis, the relapsing rate of secondary stone formation is estimated to be 10–23% per year, 50% at 5–10 years, and 75% at 20 years of the patient. However, lifetime recurrence rate is higher in males, although the incidence of nephrolithiasis is growing among females[6]. Therefore, prophylactic management is of great importance to manage urolithiasis.

The etiology of urinary calculus is still not well understood but clearer concepts are gradually emerging with recent research. Stones are merely not life threatening because today's medical practice is extremely adept at removing most of the risk of passing a stone. Urinary stones can cause two problems: when it moves or when it grows to disrupt renal function and damage occurs. The clinical approach to the stone forming patient includes both medical and surgical issues. The medical evaluation must identify patients at risk for recurrent stone formation, environmental factors that promote stones and systemic disease that contributes to stone formation. Although new and effective therapeutic methods to treat urolithiasis have been introduced recently, urinary stones continue to occupy an important place in everyday urological practice.[7]

Material and Methods

From July 2017 to June 2018 indoor patients of urolithiasis admitted in Department of Surgery and Urology IGMC were enrolled for the present study**.** Urolithiasis patients after complete urological and radiological workup were subjected for OSS**/** Laparoscopic procedure**/** PCNL**/** URSL**/** ESWL according to patient and stone profile for clearance of urinary stone**.**

Exclusion criteria –

The following patients were excluded from the study :

a) Pregnant female patients with urolithiasis**.**

b) Patients with bleeding diathesis**.**

Preop evaluation of patient was done and it included **-**

Complete blood investigations like CHG, RBS, RFT, Serum electrolytes, PT/INR, BT/CT

Urine examinations like

Urine R/E (albumin and sugar)

Urine M/E & Urine C**/**S.

UPT in female patients of reproductive age group

a. Plain X-Ray KUB after bowel preparation

b. USG KUB

c. NCCT KUB

d. IVU**/**CT-Urography

Non-Contrast Computed Tomography **(**NCCT)

NCCT KUB of all patients was performed on a 64 slice CT scanner **(**Model**:** VCT Xte;GE Healthcare**).**Patient were made to lie supine on the table and images were acquired in craniocaudal direction from the upper pole of kidney to symphysis pubis**.** The protocol for NCCT KUB consisted of following parameters**.**

Statistical Analysis:

The data collected was transferred into MS excel spread sheet for further analysis and processing. Descriptive data was expressed in the form of frequency and percentage. Continuous variables were presented in term of mean and standard deviation.

Results

Table 1: Age distribution

S, NO	Age group (Yrs)	Frequency	% age
1	< 30	20	20.00
2	30-45	42	42.00
3	46-60	31	31.OO
4	> 60	7	7.00
Total		100	100%

The majority of the patient in the study were in the age group of 30-45 years (i.e.42) Minimum age of presentation was 11 years and maximum age of presentation was 74 years.

Table 2: Sex Distribution

S.No	Sex	Frequency	%age
1	Male	61	61.00
2	Female	39	39.00
Total		100	100%

In the present study out of 100 patients, 61 were males and 39 were females. Male to Female ratio was – 1.56 : 1.

Table 3: Dietary Distribution

S.NO	Diet	Frequency	%age
1	Vegetarian	35	35.00
2	Non-Vegetarian	65	65.00
Total		100	100%

In the present study, 65 patients were non- vegetarian whereas 35 patients were vegetarian.

Table 4: Chief Complaints

S.No		Stone Site			Total
	Chief complaints	Renal n (%)	Ureteric n (%)	Bladder n (%)	
1	Dysuria	18 (66.7%)	6 (22.2%)	3 (11.1%)	27
2	Hematuria	10 (62.5%)	6 (37.5%)	0 (0%)	16
3	Pain Lt Flank	17 (60.7%)	11 (39.3%)	0 (0%)	28
4	Pain Rt Flank	17 (60.7%)	11 (39.3%)	0 (0%)	28
5	Pain Lt Flank & Dysuria	1 (100%)	0 (0%)	0 (0%)	1
Total					100

The most common clinical presentation was pain in the Flank (total=56 patients, 17 each for Rt and Lt side), followed by dysuria (27 patients) in which 18 were having renal stone, 6 were having ureteric stone and 3 were having bladder stone. 16 patient had complaint of hematuria, out of which 10 were having renal stone and 6 were having ureteric stone. Only 1 patient of renal stone had complaint of both pain Lt flank and dysuria.

Discussion

Urolithiasis is an important health problem and according to Stamatelou et al is an important cause of morbidity and end stage renal failure with incidence of about 12% in men and 6% in women[8]. Radiographic imaging provides information regarding size, location and composition of stones. The chemical composition of urinary tract stone is one of the key factors in determining the choice of treatment in patients with urolithiasis and prevention of recurrence of urolithiasis.

According to Johnson et al urolithiasis was more commonly seen in age group of 30-60 years and males were more commonly affected[9]. In the present study, maximum number of patients, 42% (n=42) were in the age group of 30-45 years followed by 31% patients in the age group of 46-60 years (n=31) and males were more commonly affected (n=61). Male to female ratio was 1.56:1. Other studies supporting our findings were conducted earlier by Baker et al[11] and Levan et al[12].

Table 5: Studies showing sex distribution and peak incidence age group (yrs)

STUDY	Peak incidence (yrs)	M:F Ratio
Baker et al [11]	50-60	1.20:1
Levan et al [12]	30-49	1.17:1
Present study	30-45	1.56:1

Protein intake increases the urinary calcium oxalate and uric acid excretion. Probability of stone formation is high in such subjects. In one study dietary protein restriction resulted in a decrease calcium, phosphate and oxalate (Liatsikos and Barbalias[13]). In another study in hypercalciuric patients, protein restriction resulted in decreased urinary uric acid and increased urinary citrate as well (Giannini et al[14]). In the present study majority of the patients (n=65, 65%) were non-vegetarian, consuming high protein diet. Rest of the patients (n=35) were vegetarians.

In the present study, pain abdomen particularly on the side of renal calculi was the most common chief complaint (n=56). Other complaints were dysuria (n=27) and hematuria (n=16). One patient had a complaint of both pain and dysuria,

Conclusion

We conclude that in our study maximum patients were young male.

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