Original Research Paper

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STUDY ON PREVALENCE OF RENAL STONES IN PATIENTS ADMITTED AT J.L.M.C.H BHAGALPUR

General Surgery

KEYWORDS: Renal stone, Prevalence, metabolic disturbances, Calcium oxalate

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ABSTRACT

Background: Renal stone is a multifactorial disease which is frequently encountered in our day to day practice. This study was done to know the prevalence of renal stones in patients admitted in our hospital. **Materials and Methods:** This study was done for a period of one year from November 2015 to October 2016 in patients who were admitted for renal stone disease in surgery department of JLNMCH, Bhagalpur. Thorough examination, investigations and surgeries were performed. **Results**: It was seen that the disease was more common in the age group between 35 to45 years. The average age group was 38 years. It occurred in both men and women, with men being more than women. One sixth of patients admitted in our hospital are due to renal stones. No association between the patients' age, gender and their resident place was found in the studies conducted. **Conclusions:** Renal stone disease is very common here and its incidence is increasing with time.

Introduction-

Renal stone disease is an important and frequent occurrence in medical practice. It is the process of forming stones in the kidney, this cannot be contributed to any single factor, and may be due to metabolic disturbances, infections, hormonal influences, dietary conditions and habits, poor fluid intake which concentrates and decreases the urine volume, immobilization or lesions or obstructions in the bladder or kidney or increased excretion of stone forming components such as calcium, magnesium, oxalate, carbonate, phosphate, urate, xanthine, cystine, etc. Renal stone, with a life time risk of 7-13%, results in significant morbidity as well as substantial economic costs, not only directly from medical treatment but also indirectly through time lost from work. Prevalence of renal calculi varies according to the geographical area & socio-economic conditions. Calculi in the urinary tract has been known since of Hippocrates and the ancient recorded example of urinary stones detected by the at el Amrah dated to 4800 B.C. India has high incidence of renal calculi especially in Gujarat, Rajasthan, Punjab and Madhya Pradesh. Renal stone disease has been recognized in many parts of the world since antiquity. It is one of the most painful and commonest urological disorders. The evidence of urinary calculi (presumably bladder) has been found in 7000 years old Egyptian mummy. Its incidence has increased considerably during the 20th century. The commonest type of stones contains calcium in combination with either oxalate or phosphate. Calcium oxalate and calcium phosphate make up at least 80% of all kidney stones.3 Infection stones are composed of struvite (magnesium ammonium phosphate) or carbonate apatite crystals. The overall probability of forming stones differ in various parts of the world and is estimated to be 1-5% in Asia, 5-9% in Europe and 13% in North America. It is considered high in Mediterranean countries including Oman. It occurs in both men and women but the risk is generally high in men and is becoming more common in young women.

Materials and Methods-

This study was done for a period of one year from November 2015 to October 2016 in patients admitted in surgery department of JLNMCH, Bhagalpur. Thorough examination, investigations and surgeries were performed. The group included both males and females.

Inclusion Criteria- All patients (of all ages and sex) admitted in surgery department of JLNMCH, Bhagalpur who have been diagnosed to have Renal stone.

Exclusion Criteria -All Abdominal conditions having similar clinical features other than renal stone, Patients who refused to take part in the study and patients with neoplastic conditions of kidney. The data collected in a specially designed Performa were processed and subjected to relevant statistical analysis.

Results:

Total patients having renal stones and admitted in the hospital from 1st November 2015 to 31st October 2016 were 115 in number. It was seen that the disease was more common in the age group between 35 to45 years. The average age group was 38 years. It occurred in both men and women, with men being more than women. Males were 68 percent and females were 32 percent. One sixth of patients admitted in our hospital are due to renal stones. Maximum stones were of calcium oxalate. Largest was of 6cms. Most common complaint was pain abdomen and back. No association between the patients' age, gender and their resident place was found in the studies conducted. CT Scan was the diagnostic tool used.

Discussion-

Renal stone disease is known to mankind for a long time. In developed countries, its incidence is increasing in all the regions. The majority of renal stones are composed of calcium oxalate and are the result of both metabolic and environmental factors. Ogata et al performed a study in which renal stones were mostly seen in 3rd and 4th decades of life. The results are similar to my study in which majority of patients with renal stones were between 35–45 years. There was a slight male preponderance. The male to female ratio was 1.5:1. These results are comparable with the observations made by M. Okuyama. According to his study the frequency of male to female ratio of upper and lower urinary tract stones were 1.68:1 and 2.25:1 respectively. But the observations made by Rajput PA et al; in Baluchistan was male to female ratio of 4:1, which shows a high male preponderance. Norlin et al have studied symptomatic renal stone disease in an urban Swedish hospital. Apparently assuming that all members of a certain population who required care would be seen at that hospital, they derived annual incidence rates for their population for two periods, 1953 to 1955 and 1968 to 1970. Their data revealed an increase in annual incidence from 2.2 to 3.3% among males and from 0.5 to 0.8% among females. Their study included only patients who presented to the hospital with symptoms of renal colic and who later proved to have positive radiographic findings. The patients were all seen in the emergency department of the hospital; no reference was made to office or clinic visits, and it is not clear from the report whether the Swedish medical system makes this consideration unimportant. Also unclear is the population to which their cases applied in the derivation of "rates." Almby, Meirik, and Schönebeck have completed a study of renal stones in a defined population in Sweden. They examined the records of the single hospital in a community of 121,000 people. Patients who had presented with a typical pain history and gross or microscopic hematuria were included in their study. They reported an overall annual incidence of 180 per 100,000 population. Males between the ages of 30 and 50 had the highest annual rates, which ranged from 500 to 600 per 100,000 population..

Conclusions: Renal stone disease is very common here and its incidence is increasing with time. A variety of factors influence the

incidence of disease in individuals and in all populations.

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