

Assessment of Risk Factors of Urolithiasis Patients

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Abstract

Urolithiasis is a common disease that is the problem of most of the persons. Urolithiasis is a disease that is commonly affecting males as compare to females.

The proportion between males and females are approximately 2:1. Most of the young people are visiting to the OPDs for their treatment in urology and nephrology which will find the disease type. Many centuries human are having the problem of renal stones (urolithiasis). It is a metabolic syndrome.

In India about 12% of population is having the problem of renal 6 stones (urolithiasis) in which 50% may cause a severe renal or kidney damage/failure. Young population are basically very prone to this disease visited opds nephrology urology department for their treatment.

Result¹: The overall assessed patients of Urolithiasis is about 11.4% and of 45% of which family had a history of other disease. This disease is usually occurring on those people that will having the disease history of urolithiasis. It is basically occurs to the people having low immune system and having diseases.

Background: Urolithiasis is basically spreading all over the world. It is the disease that affects the renal system of the body ureters urethra are the main parts that is affected. It occurs to those who are having the history of any type of disease. It is most probably occur to men's as compare to women. The renal kidney disease is termed as nephrolithiasis.³

Keyword: Renal system; Ureters; Urethra; Kidney; Renal calculi; Gallbladder, Urinary system.

INTRODUCTION

It is made from the word uro means (related to urinary system) and lithiasis means (the formation of tiny stony formation in the body in the (Gallbladder or Urinary system). It is also known as nephrolithiasis.²

This is the third most common disease that affects

the males and female but it commonly occurs in males have a proportion of approx 2:1 the occurrence of the human kidney stones that is affecting many numbers of the population in many age groups.

This is develop by the storage of few materials that is minerals acids and crystalline material in the kidney and urinary bladder is during the process

of metabolism. The relationship between water intake and kidney stones has been addressed by several studies of hydration which is considered as Urolithiasis. The overall ratio of forming stones vary around the world.²

In 2010 the European Association of Health had stated that the male is having more prevalence of calculi as compared to females the ratio is 2:8. Lifestyle of that time is getting more stone formation such as obese individual overweight person's are supposed to be more prone to the renal calculi in 2004 to have a higher risk of this idiopathic development of calcium oxalate residues in kidney resulting in the renal stone formation in the body. It is a public health concern.³

The relationship between water intake and kidney stones had been found by some studies as hydration, which is considered as the major determinant of stone formation.³

To the best of our knowledge there are very less research regarding the public knowledge and awareness of urolithiasis risk world widely the disease that occurs due to the usage of unhealthy food or junk food is the reason of having stones. The most common reason of urolithiasis is that in it is a condition in which the stone exist into the renal pelvis and move the remainder of urinary collecting system that is included the ureter ladder and urethra many of the collecting system it is mainly includes ureters with bladder and urethra in which patients having Urolithiasis it is managed with acceptance of Management of antiemetic medications in which stones that are associated with the obstructions failure and infection required the management of the urolithiasis. It is mainly cured with the analgesic, antiemetic and management. The stones are associated with the help of obstruction and renal failure and the infection. That is caused increasing critical intervention.

Etiology

There are many types of kidney stones; however, 80% of stones are made up of calcium oxalate or phosphate. And some stone types are composed of uric acid (9%), struvite (10%), and Cystine (1%) stones and are mainly common than stones composed of calcium oxalate or phosphate (80%).² The different types of stones occur due to many risk factors such as diet, prior personal and family history of stones, environmental factors, medications, and the patient's medical history.

The main risk factors for include stone formation include poor oral fluid intake, high animal-

derived protein intake, high oxalate intake (found in foods such as beans, beer, berries, some nuts, some teas, soda, spinach, potatoes), and high salt intake.² Oral hydration is at a rate that produces 2.5 L of urine per day, and acceptable choices for fluids include water, coffee, tea, beer, and low sugar fruit juices except for tomato (high sodium content), grapefruit, and cranberry (high oxalate content). Consumption of citrate helps to reduce stone formation as it inhibits crystal aggregation by forming complexes with calcium salts within the urine. 70% of patients with calcium stones have been found to have hypocitraturia.^{3,4} Low calcium intake has been shown to increase the risk of kidney stone formation. Decreased oral calcium intake will reduce calcium levels within the GI tract, that will be available to bind to oxalate. This, in turn, it will increase oxalate absorption and excretion. Vitamin C intake and fish oil help to reduce the risk of calcium stones.

A prior personal and family history of kidney stones will increase the patient's risk of developing subsequent stones substantially. Procedures such as gastric bypass and sleeve gastrectomy a three-fold increase in calcium oxalate stone formation secondary to the malabsorptive post-surgical state, resulting in increased urinary oxalate levels, low production of urine, and decreased urine citrate.⁵

The presence of medical conditions such as chronic kidney disease, hypertension, gout, diabetes mellitus, obesity, endocrine, and malignancies increase the risk of the development of kidney stones.

NEED FOR THE STUDY

This study is basically for the cure and prevention of Urolithiasis. To know about the Urolithiasis this is the disease which is commonly occurring in all the people mainly men's are suffering from this disease. To know about the risk factors include for preventing the disease to enhance the knowledge of people. There are mainly supposed to be every one his person is having the disease.

We have to change the dietary patterns to live healthy lifestyles.

Doing workout for preventing the disease is also a very good option to stay away from the disease.

METHODOLOGY

Research approach

This research is for observational study that is used

a convince sampling technique for the selection of s population of study to get the risk of urolithiasis and to know about the public knowledge about Urolithiasis. The quantitative research method was considered to be the most effective methods to the goal to be set.¹¹

RESEARCH DESIGN

The research design was set by the investigators was descriptive design.

Population

The population of the study is having the patients who is having the fact of the renal calculus in the urinary tract and diagnosed with the population of the study of both in the man and woman and they are more patients of male and diagnosis. The population were visited in neurology and nephrology OPD is in Vinayak Hospital Delhi.

Sample

The patient who are recently diagnosed with urolithiasis and having the history of renal calculi will attending neurology and nephrology OPD of Vinayak Hospital Delhi and met with that criteria.

Sample size

The total population of 50 patient were used for the study as sample.

Criteria of sample collection

The criteria of inclusion were female male and transgender greater than 21 years I able to English and Hindi having the past and present history of euro ethesis it is having excursion criteria of pregnant and lactating mothers who are not wearing to participate and mentally challenge.

SYMPTOM

- Pain in the back or side part of the body.
- Pain types; can be severe, sharp, or sudden in the abdomen.
- Pain circumstances; can occur during urination.
- Gastrointestinal; nausea or vomiting.
- Urinary; blood in urine or frequent urination.
- Also common; sweating.¹²

TYPES OF UROLITHIASIS

Calciumstones

Many kidney stones are made of the calcium in the form of Calcium Oxalate. It is a substance which is made up of water by the liver or absorbed from the diet of the patient.¹

Struvitestones

Struvite stone form in response to a urinary tract infection. These stone can grow quickly and become large sometimes with some symptoms or little warming.²

Uricacid

Uric stones is made from the people who loss more fluid because of Chronic Diarrhoea or Malabsorption of those who eat a high protein diet and those with Diabetes or metabolic syndrome¹³.

Cystinestones

These stones can made the people with a hereditary disorder called Cystinuria.

Risk factors – Factors that increase the risk:

Family or personal history- If someone in your family having kidney stones Then it is possible for the patients is having the stone problem in future.

Dehydration – By not drinking enough amount of liquid this problem may occur an d become very severe if it is done regularly.

Obesity – It is caused by the body mass index (BMI) gaining in the weight this problems may occurs.

Digestive disease and Surgery - Gastric bypass surgery Chronic diarrhoea can cause changes in the Digestive and Inflammatory bowel disease increasing the amount of the stone forming substances in the urine.¹

TREATMENT

The treatment of urolithiasis is based upon the patient conditions and presentation of the patient that includes therapies and medical interventions if the patient pain then the medication is will be our indicated inflammatory medication as first line recruitments of for pain of poets are used for reserved and refractive I will do in it is also been studies as an effective in control option if the patient is met with nausea vomiting should be treated with IV antiemetic medication as such as

old metacular Mind from a design etc. includes anti blockers such as doctor which is useful adjacent to facilitate passage of larger 5 to 10 millimeter. The patient who is having the lord stone and presentation of the patient renal store is acute renal failure algoria anuria associated infection or a history of solitary kidney is in is in the isn't present may require emergent geology intervention that is intractable pain of vomiting. The patient who is having the large store in the presentation with understand associated with the infection of soluble kidney is present it may require urgent Urologist that is interact table pain or vomiting navigated oral take pregnancy of Main require hospitalisation as soon as possible acute renal obstruction in the sign of urinary tract infection is Urologist in emergency it will require emergent decompression to prevent permanent renal damage and worsening of infection the two option currently present at the time invading neutral catheter and placement of nephrostomy tube.¹²

PRECAUTION

- Changes in the lifestyles
- Exercise regularly to stay fit.
- Eat fewer oxalate food.
- Choose low amount of Salt and Non vegetarian food.
- Eat calcium rich food and use calcium supplements as well.
- Drink plenty of water 2-4l/day.
- Eat enough dietary calcium.
- Avoid high salt intake.
- Avoid fizzy drinks.
- Eat less animal protein.
- Avoid non-vegetarian food.
- Eat more fresh non processed food.
- Eat balanced diet.
- Take low fat rich diet.
- Stay hydrated.³

CONCLUSION

In this study we have seen that there are many disease in our country and the people have very less knowledge about there risk to gain knowledge about the disease and as we seen that there are 50% patient. Of having history of urolithiasis and not knowing about their risk and assessment of the disease.

The male are more prone to the disease as compare

to females and having more disease of Urolithiasis.

The reason of that disease is basically the dietary pattern and lifestyle of the people which is the best reason for having the disease. Patients those who are having kidney kidney stones have to take low amount of animal protein the person should be hydrated and have tale all the medicines on time for cure properly. Urolithiasis is basically a public concern nowadays every third person is suffering from that disease .those are more prone to the disease that are having the history of Urolithiasis and jabeing the weak immune system to eat or digest it is the disease that block or affect your ureters urethra and renal system that will lead to the kidney failure or sometimes. Urolithiasis is a common multi factorial diseasethat has been recognised and documented in medical literature by Greek and european scientists. These stones contain the mineral magnesium and the waste product ammonia. A uric acid stone may form when there is too much acid in the urine.²

RESULTS

This is a disease that is very common we have to take the precaution for better health. We should take an enormous and a healthy diet that can make the health better more intake of water. There is many way that can be used for better health. To cure our self we have to consume low amount of animal flesh take low calcium or sodium intake take balanced diet.

We have to exercise for the better result and if we are having any of symptoms than meet to the physician as soon as possible.¹

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