Urolithiasis Presenting as Right Flank Pain: A Case Report

Abstract:

Introduction: Urolithiasis is a term that refers to the formation of calculi or stones in the urinary tract. Calcifications arise in the urinary system, generally in the kidneys or ureters, but they can also damage the bladder and/or urethra. It's a prevalent ailment that leads to a high number of hospital visits. It is generally avoidable by modifying risk factors, and there are a variety of treatment methods available. Clinicians may start treatment who are experiencing acute pain or who have recovered from acute pain, and they should be aware of the signs, symptoms, potential consequences, and therapeutic suggestions. In urolithiasis, diagnostic imaging techniques such as double-contrast cystography, ultrasonography, radiography, and, potentially, computed tomography are used. **Main diagnosis:** Urolithiasis. **Present Complaints and Investigation:** A case of 50-year-old male admitted in AVBRH on dated 13/02/2021 with chief complaints of severe pain in the side, pain that spread to the lower abdomen and groin, pain in urination, Nausea, Vomiting. for 15 days. Hemoglobin is decreased 7.5gm/dl, Sodium: 19.1mg/dl, creatinine: 5.4 mg, calcium: 11.5mg/dl. Urine analysis, cystoscopy, ultrasound, KFT, LFT Carried out and after that doctor diagnose a urolithiasis. Tab. ibuprofen, syp. cystone **Conclusion**: The nurses play a vital role at the bedside and take care of patients when they receive treatment. This case report focusses on effective nursing intervention and help client for improving condition.

Keywords: Urolithiasis, back pain, groin pain.

Introduction:

Urolithiasis is most typically found in adults; however, it is becoming more common in youngsters. The link between blood pressure (BP) and urolithiasis in children is poorly understood. When your urine contains excessive levels of specific minerals, a kidney stone can form in one or both of your kidneys. When handled by a medical specialist, kidney stones seldom result in permanent damage. Urinary stone disease (USD) is becoming increasingly common. The factors that are causing this growth, however, are unknown. Recent microbiome research suggests that symbiosis may play a role in the rise in prevalence. [1,2,3]

Urolithiasis is a common and recurrent condition that has recently become more prevalent because to the obesity epidemic. A number of illnesses have been linked to the underlying molecular mechanism of urolithiasis, with some of them being discovered in children. To assess the temporal trend of upper urinary tract stones in the Japanese population, a countrywide survey of urolithiasis was conducted. [4,5,6]

Diet, excess body weight, some medical conditions, and certain supplements and medications are among the many causes of kidney stones. Kidney stones can affect any part of your urinary tract from your kidneys to your bladder. Often, stones form when the urine becomes concentrated, allowing minerals to crystallize and stick together. In industrialized countries, roughly 5–10% of the population suffers from urinary stone development. Urolithiasis is caused by a complex biochemical process that is not completely understood. Kidney stone development is the result of chemical changes and urine supersaturation. [7,8,9]

Patient's information: A case of 50 years' male admitted in Acharya vinobha behave rural hospital with the chief complaints of severe pain in the side, pain that spread to the lower abdomen and groin, pain in urination, Nausea, Vomiting. for 15 days.

Primary Concerns and symptoms: Were the primary symptoms which observed at the time of admission. patient had no previous medical history of any kind of disease and related urolithiasis. his belongs to joint family. all family members are healthy excrete the patient. he maintained good interpersonal relationship between the family members and there was no family history of hypertension, asthma, patient looks dull and anxious. his bowel and bladder were abnormal, sleeping pattern is disturbed due to the pain in abdomen and pain in groin. patient having no any bad habits like tobacco chewing, alcohol etc. Medical, family, and psycho-social history: Present case had no history of any medical problems. He belonged to joined family and her husband had medical history of Hypertension. He was mentally stable, conscious and oriented to date, time and place. He had maintained good relationship with doctors and nurses as well as other patients also.

Relevant past intervention with outcomes: Present case had bad medical history. The patient was admitted in private hospital with chief complaint of chief complaint of Arms, fingers, and hands become numb and tingly. Muscle weakness makes grabbing and holding objects difficult. Pain and stiffness in the neck for 10 days. That time patient general condition was poor so patient was referred to AVBRH sarangi Wardha for further management.

Clinical findings: The patient was conscious and well oriented to date, time and place. His body built was moderate and she had maintained good personal hygiene. Her hemoglobin was low i.e., 10gm, pulse rate was slightly increased. Blood pressure was 110/70 mm of hg. Blood pressure was 110/70 mm of hg, no challenges experienced during diagnostic evaluation.

Prognosis: Blood investigations show that the Hemoglobin level slightly low, WBC level is increased.

Nursing perspectives: IV fluid was provided to maintain the fluid and electrolyte. Monitored fatal heart rate and vital signs per hourly.

Relevant past intervention with outcomes: patient having no relevant past intervention and no outcome.

Physical Examination: patient is conscious, co-operative, well oriented, He was thin body built, the height of patient is 152 cm and weight are 51kg. his vital parameters are normal. his abdomen finding was abnormal. Examination of abdomen - no rashes present, Tenderness was present, No any pus formation. Timeline: patient having no past medical history. current she was admitted for urolithiasis in AVBR Hospital for treatment, Alpha blockers was given, potassium citrate was given, hydrochlorothiazide was given, ondansetron was given.

Diagnostic Assessment: Based on patient's history, physical, abdomen and blood examination Hemoglobin is decreased 7.5gm/dl, Sodium: 19.1mg/dl, creatinine: 5.4 mg, calcium: 11.5mg/dl. Urine analysis, cystoscopy, ultrasound, KFT, LFT. Diagnostic Challenging: No any challenging during diagnostic evaluation.

Diagnosis: After physical examination and investigation doctor diagnosed case of urolithiasis. **Therapeutic intervention:** Medical management was providing to the patient Alpha blockers was given, potassium citrate was given, hydrochlorothiazide was given, ondansetron was given. he was taking all treatment and outcome was good. his sign and symptoms were reduced, his able to do her own activity. No any changes in therapeutic intervention.

Outcome and follow-up: In spite of the all care of patient progress in active health of the patient care of the present regular medication, healthy diet they will be recover and health status are improving more than before condition.

Important follow up diagnostic and other test result - Change occur in all sign and symptoms such as pain. Sodium level was normal and hemoglobin level was improved. The patient symptoms were resolved.

Discussion:

Although this idea, that stone is caused by stasis, is true in some situations, it is completely false when stasis is demonstrated to be absent. It should also be noted that the presence of a stone in a hydro nephrotic pelvis does not necessarily imply that the stasis created the calculus; in many cases, the stone came first and caused the hydro nephrotic condition. Urolithiasis is a complex condition that is affected by both internal and external influences. Male gender is considered a risk factor, with a three-fold higher prevalence of urolitlithiasis than female gender, but the impact of sex hormones on urinary stone production is unknown. The relevance of understanding the chemical makeup of renal calculi is widely acknowledged. For the investigation of the etiology of stone formation and the formulation of medicinal regimens, reliable analytical information is essential. While traditional chemical analysis has its limitations in determining the composition of stones, Prien and Frondel outline two physical methods that have lately been discovered to be very useful in this endeavor: optical and x-ray methods. [10,11,12]

Kidney stones lead to chronic kidney disease (CKD) in people with rare hereditary disorders (e.g., primary hyperoxaluria, cystinuria), but it is unknown whether kidney stones are an important risk factor for CKD in the general population. [13,14,15]

In industrialized countries, roughly 5–10% of the population suffers from urinary stone development. Urolithiasis is a severe socioeconomic problem due to its high incidence and recurrence rate. Urolithiasis does not have a medicinal treatment, but some drugs can help with pain. Effective medical treatments have been developed that are capable of addressing underlying derangements. [16,17,18] Hypercalciuric nephrolithiasis is treated with sodium cellulose phosphate, thiazide, and orthophosphate; hypocitraturic calcium nephrolithiasis is treated with potassium citrate; infection stones are treated with acetohydroxamic acid; and cystinuria is treated with d-penicillamine and mercaptopropionylglycine. In most patients, new stone formation may currently be avoided with these treatments. The cause of stone development must be addressed for effective prevention. [19,20,21]

In general, good diet and medication use are required to prevent the first and second bouts of urolithiasis. [22] The best way to avoid kidney stones is to maintain a healthy diet. Patients should drink enough water and other liquids to produce at least 2 liters of urine each day. Urinary saturation is reduced and promoters of CaOx crystallization are diluted when enough fluid is consumed. Foods's high in oxalate, such as spinach, almonds, potato chips, french fries, and beets, should be consumed in moderation. [23] Reduced calcium intake is crucial, as is reducing sodium consumption. [24] Extracorporeal shock wave lithotripsy and laparoscopic ureterolithotomy, for example, have changed the way urinary and renal lithiasis are treated. [25]

Informed consent: before taking this case, information consent taken from patient and his relative.

Conclusion: Urolithiasis is harder to treat in the aged since they have more complications and become less likely to show with classical renal colic complaints. This could result in a later presentation with larger, more complicated stones. Individuals with significant back and flank discomfort should consider acute care and preventive efforts in patients with renal calculi, as it might lead to hydro nephrosis and kidney failure.

This case report provides the psychopharmacological management, pertinent nursing diagnosis, patient outcomes, and nursing interventions for urolithiasis. Further management enhancing and improving patient's pain related to urolithiasis. Nurses should be having good knowledge about urolithiasis. Timely information to the physician will prevent harm to the patients and educate the family members to come for the follow up regularly after discharge.

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