

Management of Hydronephrosis

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Abstract

Aim:-Hydronephrosis is a condition in which one or both of kidneys become stretched and swollen which may be either due to blockage somewhere in urinary system or flow of urine from the bladder back to the kidneys. Symptoms include flank pain, associated with nausea, vomiting, There may be blood seen in the urine. The main purpose of study was to identify the causes of hydronephrosis, its management. The objectives of management were to, optimize renal function, and to educate the patient about their disease and its treatments. **Method:-**Method that was adopted for the study was Performa which was used to assess the management of hydronephrosis. The study group consisted of 35 patients. **Result:-**The data showed that patients were given both medical & surgical treatments. Out of 35, 74% patients showed unilateral & 26% showed bilateral hydronephrosis (H/N). Flank pain was observed in almost all patients. Most common cause of hydronephrosis was kidney stones. **Conclusion:-**Hydronephrosis is a very common condition; it causes significant pain due to blockage anywhere in urinary system. Optimal management of patients with hydronephrosis requires integrated therapy involving both medical care and surgical care.

Keywords: flank pain, Hydronephrosis, Ureteropelvic junction obstruction, Vesicoureteral reflux.

INTRODUCTION

The geriatric population presents a unique challenge to the health care provider. The incidence of common lower urinary tract disorders, such as benign prostatic hypertrophy (BPH), prostate cancer increase dramatically with aging. In their more severe forms, these disorders may predispose to hydronephrosis and ultimately to renal deterioration [1]. Although congenital ureteral obstruction was a common disorder in infants, its pathophysiology remains poorly understood and its clinical management continues to be debated. During the past decade, the surgical management of non-symptomatic hydronephrosis in children has become more conservative, but the long-term physiological consequences of this new policy were unclear. New studies, using a model with chronic partial ureteral obstruction, demonstrated that hydronephrosis was associated with renal injuries and was causally related to hypertension [2]. The incidence of asymptomatic hydronephrosis in newborns was high. Postnatal management demands a detailed prenatal history. Initial workup in newborns with unilateral hydronephrosis starts with a physical examination and sonography of the urinary tract on day 3-5. Grades 3 and 4 hydronephrosis were further investigated with a voiding cystourethrogram

(VCUG) and diuretic renogram between weeks 4 and 6 [3]. Ureteropelvic junction obstruction (UPJO) was a common cause of upper urinary tract obstruction that can be clinically silent or lead to symptoms such as pain, chronic urinary tract infections, and urinary stone disease [4]. The choice of conservative or surgical management of hydronephrosis was based on the results of excretory urography, fluoroscopy of pelvic and ureteral peristalsis, isotope renography and renal clearance studies but symptom severity was considered greatly important. In the absence of infection and stone formation hydronephrosis in adults seems to be a fairly benign condition and followup should be directed mainly toward detecting these complications. Recurrent flank pain still seems to be the best indication of the need for surgery [5]. Ultrasonography was the first imaging approach in evaluation of patients with urinary obstruction. Presence of hydronephrosis and inflammatory complications can be assessed. Moreover, the level and the cause of obstruction were often identified [6]. The strong association between hereditary nephrogenic diabetes insipidus and nonobstructive hydronephrosis suggests a cause-and-effect relationship in which polyuria was responsible for the hydronephrosis [7]. Spiral computed

tomography is now applied in the investigation of patients with acute flank pain to search for suspected urinary tract calculi. Spiral CT can depict urinary calculi more accurately than plain radiographs, sonography or excretory urography, and can be performed using a low dose protocol. In addition to determining size and location of the stone, unenhanced helical CT can predict its composition. Furthermore, it reveals secondary signs of obstruction, such as dilatation of the renal collecting system and perinephric stranding. In the absence of urolithiasis, CT can frequently detect or exclude other causes of acute flank pain, thus guiding subsequent imaging and the therapeutic management [8]. Mild grade hydronephrosis can be safely managed non-operatively with a meticulous follow-up and undergoing surgery only when signs of deterioration occur [9]. This paper deals of kidney stones, hard concretions that grow within the urinary tract, 71.5% of which have calcium contents [10].

MATERIALS AND METHODS

A total of 35 patients of hydronephrosis were enrolled in. Study data was conducted on both males and females from age group 0-75 year. The data was collected from Jinnah Hospital Lahore, Mayo Hospital Lahore, and Ganga Ram Hospital & Services Hospital Lahore. A Performa was designed to record the patient’s history, their demographic detail, and history of illness, medications, treatment plan and

cautions advised to them. Results were given in the form of tables.

RESULTS: - Data of 35 patients with hydronephrosis was studied in different hospitals. The parameters which were analyzed during the study included.

Fig 1: OCCURANCE OF HYDRONEPHROSIS IN MALES AND FEMALES

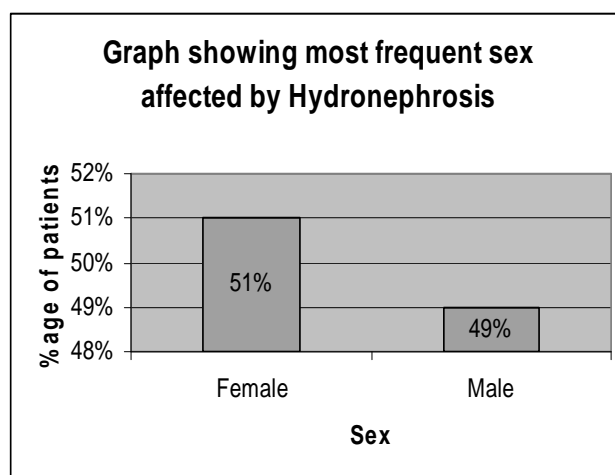


Fig 1: shows that Males and females were almost equally affected by hydronephrosis, 51% females and 49% males

Fig 2: reveals that 51% (18/35) patients were suffering from pain in FLANK region, 29% (10/35) patients in PELVIC region, 14% (14/35) patients in LUMBER region, 6% (6/35) patients of BACKACHE

Fig 2: AREA OF OCCURANCE OF PAIN

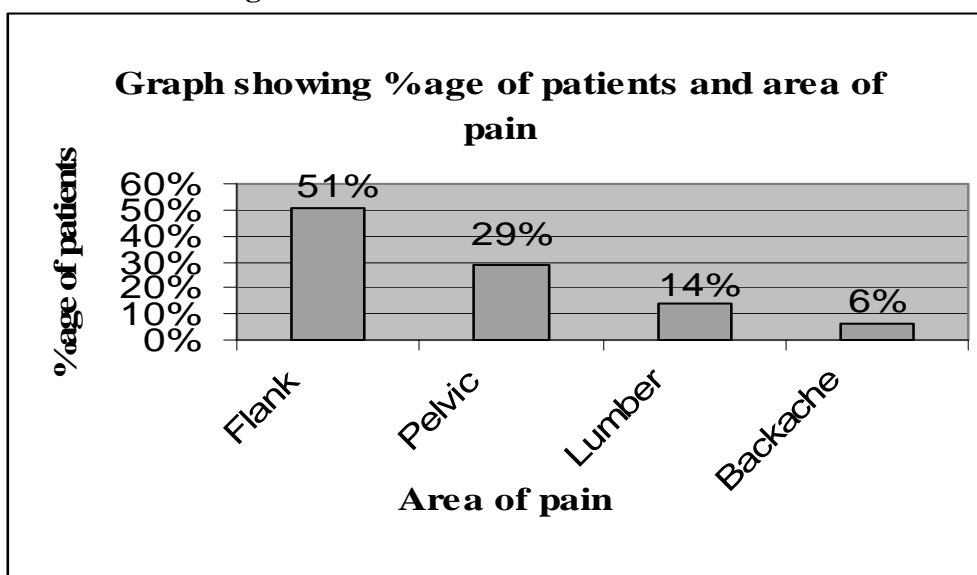


Fig 3: shows that 100% patients showed symptoms of pain, 17% showed dysuria, 9% burning micturation, 3% haematuria & nocturia and 6% pyouria.

Fig 4: describes that 26% (9/35) patients showed Bilateral Hydronephrosis &

74% (26/35) showed Unilateral Hydronephrosis.

Fig 5: shows that 54% patients were diagnosed with ULTRASOUND, 20% with X-ray test, 17% with IVU & 9% patients with DTPA.).

Fig 3: COMMON SYMPTOMS OF HYDRONEPHROSIS

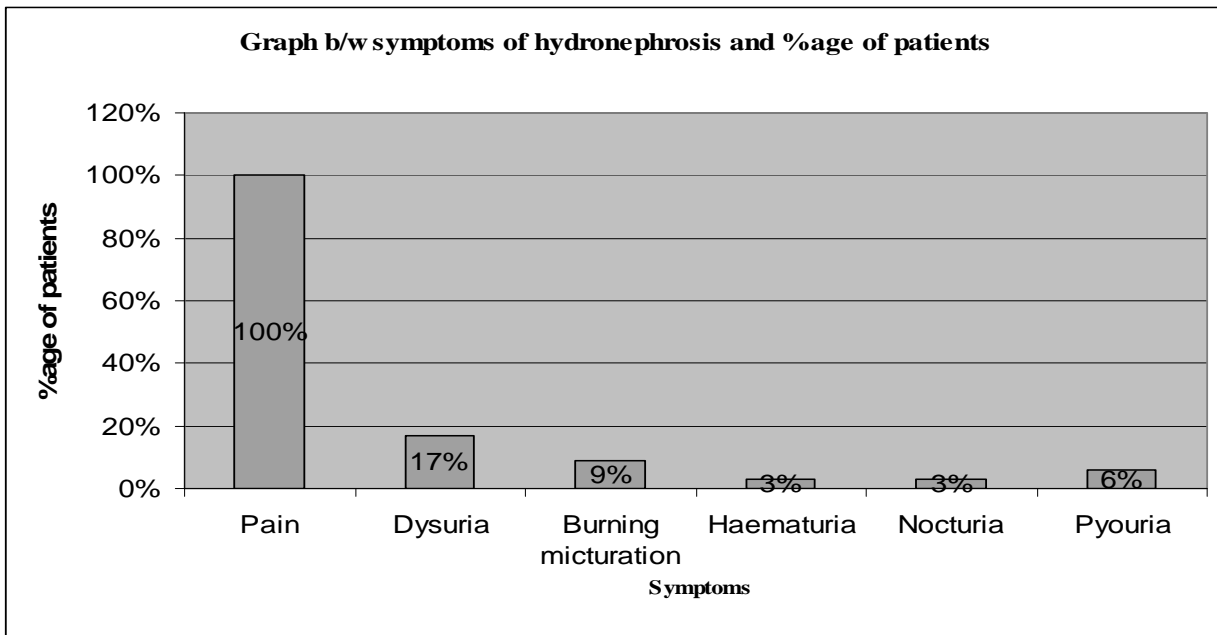


Fig 4: OCCURRENCE OF BILATERL OR UNILATERAL HYDRONEPHROSIS

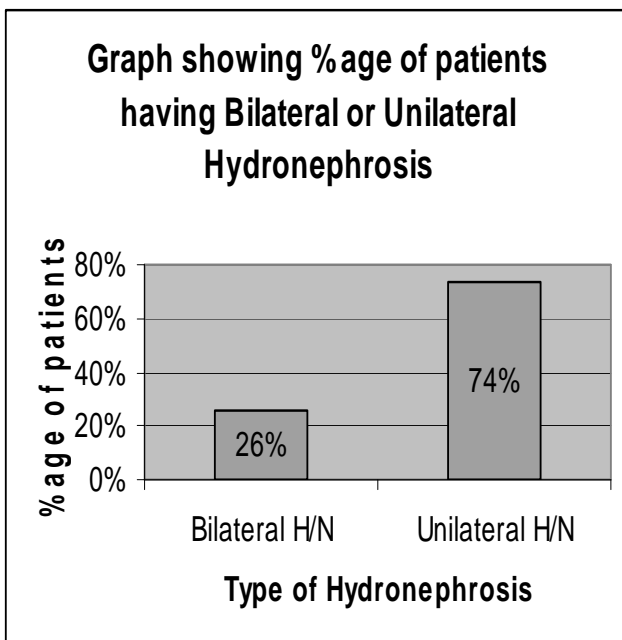


Fig 5: DIAGNOSTIC TESTS USED FOR HYDRONEPHROSIS

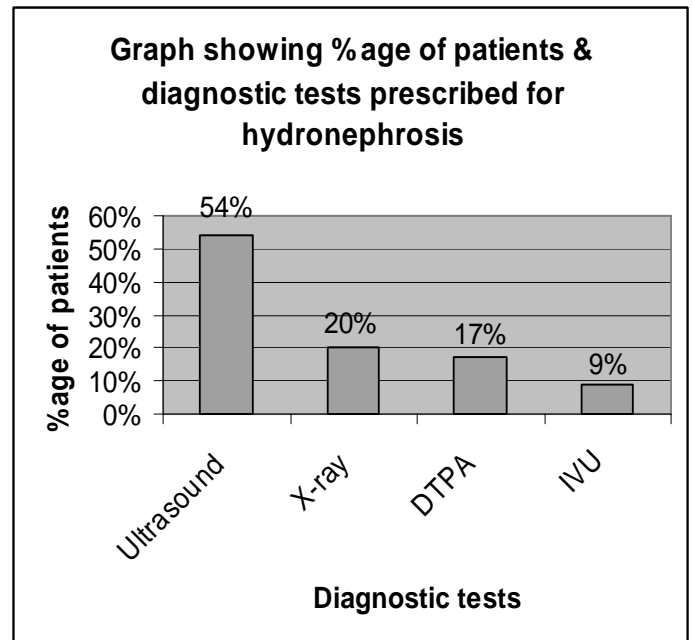


Fig 6: shows that most common causes of Hydronephrosis were stones 86%,Ureteropelvic junction obstruction 6%,Vesicoureteral reflux 6% ,Double collecting system 2% .

Fig 7: shows that medications were prescribed to 100% patients and

surgery was performed of 17% patients

Fig 8: shows that antibiotics and analgesics were prescribed to 100% patients and stone dissolving drugs were prescribed to 17% patients.

Fig 6: MOST COMMON CAUSES OF HYDRONEPHROSIS

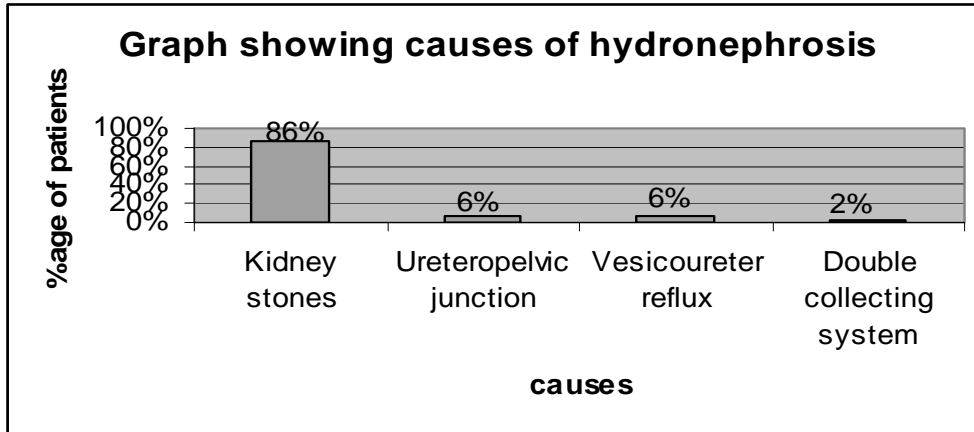


Fig 7: TREATMENTS FOR HYDRONEPHROSIS

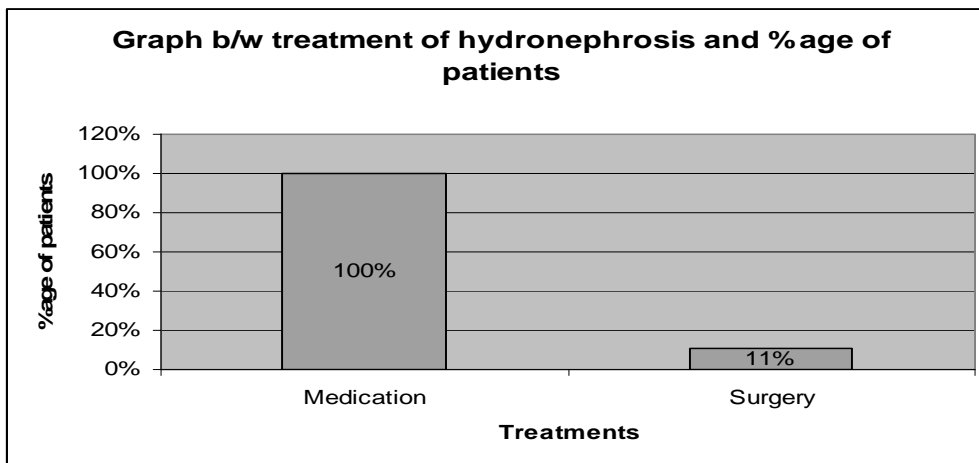
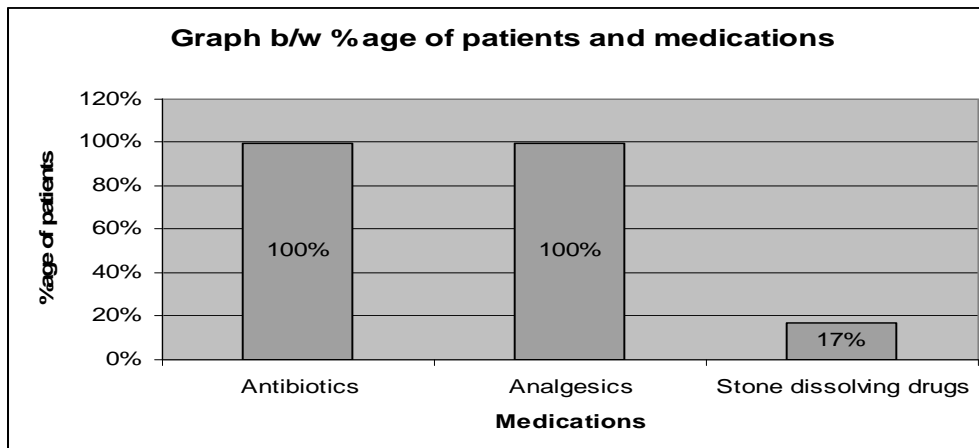


Fig 8: MEDICATIONS FOR HYDRONEPHROSIS



DISCUSSION

Hydronephrosis is a condition in which one or both of kidneys become stretched and swollen. This is usually because of blockage somewhere in urinary system, which is the usual cause, or urine is flowing from the bladder back to the kidneys. When the flow of urine is obstructed, urinary tract infections are fairly common and stones are more likely to form. If both kidneys are obstructed, kidney failure may result. Symptoms depend on the cause, location, and duration of the obstruction[11]. Ureteropelvic junction obstruction (UPJO) is a common cause of upper urinary tract obstruction that can be clinically silent or lead to symptoms such as pain, chronic urinary tract infections, and urinary stone disease[12]. Mild grade hydronephrosis can be safely managed non-operatively with a meticulous follow-up and undergoing surgery only when signs of deterioration occur [13]

Ultrasonography is the first imaging approach in evaluation of patients with urinary obstruction. Presence of hydronephrosis, and inflammatory complications can be assessed[14]. Medical treatment of renal colic is based on nonsteroidal antiinflammatory drugs, because prostaglandins appear to play a crucial role in the pathophysiology of pain during ureteral obstruction[15].

In management of hydronephrosis pharmacists provide important support in treatment decision making for patients who may not receive adequate advice from other health care professionals. The educational effort must be directed not only towards the patients but also towards their families and supportive system. These educational efforts not only increase patient compliance and their knowledge of disease but also their quality of life.

CONCLUSION

Hydronephrosis was a very common condition, and it causes significant pain due to blockage anywhere in urinary system. Optimal management of patients with hydronephrosis requires integrated therapy involving both medical care and surgical care.

The analysis reveals that almost all the patients are prescribed same medications without identifying in which grade of hydronephrosis they are. There is need for more efforts to improve implementation of hydronephrosis guidelines and to access the efficacy and cost effectiveness of recommended strategies. From the results we conclude that most common causes of hydronephrosis were stones, Ureteropelvic junction obstruction and Vesicoureteral reflux. Pharmacists are in ideal situation to improve compliance by educating patient and clinician and by establishing a supportive relationship with patient.

However, we conclude from our personal experience of working at Government Hospital in association with physicians that that among those who educate the patients, mostly do not educate with the soul of providing knowledge. They do not fulfill the requirements of counseling. That's why they do not take part in improving patient's compliance. This behavior is the result of work overload.

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