IJCRR
Section: Healthcare
ISI Impact Factor
(2020-21): 1.899
IC Value (2020): 91.47
SJIF (2020) = 7.893

Copyright@IJCRR

Giant Hydronephrosis: A Rare Case Report in a 64-years-old Male Patient

Nawaz Ali^{1*}, Khumukcham Somarendra²

¹Senior Resident, Department of Urology RIMS, Imphal, Manipur, India; ²Assistant Professor, Department of Urology RIMS Imphal, Manipur, India.

ABSTRACT

Introduction: Giant hydronephrosis is a rare entity and mostly in the literature, it is published from developing countries.

Case Report: We reported a case report in a 64-year-old male patient who presented with a big abdominal lump occupying almost half of the right side abdomen. Ultrasonography and Contrast-enhanced computed tomography were done for the diagnosis and further characterization. After decompression by percutaneous nephrostomy (PCN), elective nephrectomy was done as the kidney was non-functioning.

Conclusion: We should never forget this unexpected entity in the differential diagnosis of an abdominal lump in this age group.

Key Words: Giant hydronephrosis, Nephrectomy, Percutaneous nephrostomy, Elective nephrectomy, Ultrasonography, Abdominal lump

INTRODUCTION

Giant hydronephrosis has a varied definition, as the presence of more than 1 liter of urine in the pelvicalyceal system (PCS), when the kidney occupies a hemi-abdomen which meets or crosses the midline lump and some have reported as the involvement of more than 5 vertebral heights.^{1,2,3} It is a rare entity and is mostly found in developing and low socioeconomic countries.⁴ Majority of reported cases has been reported as congenital and found commonly in infants and children.^{3,4} Here we report a case report of unilateral right side giant hydronephrosis in a 64-year-old male patient.

CASE REPORT

A 64-year-old male patient presented with a big swelling in the right side of the abdomen and mild flank pain. According to the patient he had mild pain one year back, the pain subsided after taking medications and the patient noticed the swelling after 2 months in the right flank region but was not consulted to any medical practitioner. The swelling was progressive and reached the present size occupying almost the right hemi abdomen. There was a history of dysuria and in-

creased frequency of micturition. There was no history of fever, hematuria, vomiting, or evening rise of temperature. On his general examination, his vitals were pulse 84/m, blood pressure 134/ 84, temp 98.4, and no significant lymphadenopathy elsewhere in the body. On abdominal examination a huge non-tender lump was palpable on the right side of the abdomen reaching, superiorly up to the right subcostal area, inferiorly reaching the iliac fossa, and medially extending up to the midline. (Figure 1) No costovertebral tenderness was present.

His biochemical analysis shows, cloudy acidic urine with pus cells > 50/HPF and RBCs of 10-15/HPF. His urea and creatinine were 25mg /1.0mg. Liver function tests, coagulation profile, and viral serology were unremarkable. Ultrasonography of the abdomen reveals a big cystic swelling in the right kidney with multiple septations with a stone size of around 2.5 cm in the pelvis. (Figure 2) X-ray abdomen erect showing radio-opaque shadow in the right pelvis, the displacement of bowels on the left side and inferiorly toward the pelvic cavity. (Figure 3) Non-contrast computed tomography (NCCT) shows a hugely dilated right kidney with multiple septations occupying almost half of the abdominal cavity with a pelvic calculus of size 2.4cm and

Corresponding Author:

Nawaz Ali, Department of Urology RIMS Imphal Manipur 795001, India
Phone: +917889382723, +918506831412; Email: drnawazali37@gmail.com

ISSN: 2231-2196 (Print)

ISSN: 0975-5241 (Online)

Received: 18.11.2021

Revised: 12.12.2021

Accepted: 31.12.2021

Published: 15.02.2022

very thinned out renal parenchyma. The left kidney was normal. (Figure 4)

After admitting the patient, right percutaneous nephrostomy (PCN) was placed and around 2 liters of urine drained out stat and then nephrostomy tube was kept clamped overnight to prevent decompression hematuria. Urine culture and sensitivity revealed *E. coli*. Subsequently, the next day clamp was unclamped and around 1-liter urine came out. Screening USG was done on the 3rd day of admission and shows still three loculated cystic swellings in the right iliac fossa and right hypochondrium. Another PCN was placed in the dominant swelling and the rest of the cystic cavities were drained by percutaneous drainage by using a PCNL puncture needle. (Figure 5) The total amount of urine drained out was 5.4 liters. The patients remain hemodynamically stable during admission in the ward. After 5 days both the PCN catheter were draining around 50-100ml/24 hours. The patient was discharged on both the PCN catheters and told to come for the follow-up after 3 weeks with intravenous pyelography (IVP).

Follow up: After 3 weeks both the PCN output was <50ml/24hours and the IVP depicts a non-functioning kidney. The patient was planned for elective nephrectomy and post-procedure the patient remains uneventful.

DISCUSSION

Giant hydronephrosis is a very rare disease these days and that too in old age is very rare. The reason may be because of the widespread availability of ultrasound and other imaging facilities. It is reported most commonly in the pediatric and adult group of patients.^{3,4} Congenital pelvic ureteric junction obstruction is the most common cause in children and in adults most commonly it occurs due to different causes of secondary ureteric obstruction like stones and strictures.^{6,7} Most of the cases are reported as unilateral however bilateral GH has also been reported.⁴ The most common presentation of GH is abdominal lump followed by flank pain, recurrent urinary tract infections, fever, hematuria.^{8,9} In our patient the patient came with an abdominal lump with a history of pain in the right flank one year back which subsided with medications. Giant hydronephrosis in the adult and old aged patients often leads to confusion in the diagnosis because of other large most common cystic masses in the abdomen like pseudomyxoma, intraperitoneal or extraperitoneal cysts, ascites, ovarian cysts, and rarely renal tumors.^{10,11}

Most of the cases are diagnosed by USG which shows huge fluid-filled hydronephrosis with thinned out renal cortex. Contrast-enhanced computed tomography (CECT) is needed for further characterizations of the lesion, the functional status of the kidneys and to rule out other differential diagnoses. MRI is preferred in patients with deranged renal

function. A diuretic renogram is needed to assess the differential function of kidneys and assess the drainage.¹²

As there is no definitive management algorithm and follow-up of this disease entity, most of the literature believes that the management of GH should be individually worked up and managed depending upon his/her anatomical and functional status. As per the routine practice in our institute, the placement of nephrostomy was decided at first instant and the idea of putting nephrostomy was to decompress the system, providing symptomatic relief to the patient. The initial placement of the nephrostomy tube has shown a considerable improvement in renal function in some of the reported cases.³ The assessment of renal function can be done by calculating 24hr urinary creatinine clearance of the affected kidney and further assessment can be done later with IVU/CECT. There are different reported treatment modalities in the literature like pyeloplasty, pyeloplasty with nephropexy, pyelolithotomy, and in rare selected cases, ureterocalycostomy, calyocystotomy, and boari flap calycovesicostomy.^{3,8,11} The preservation of renal parenchyma as the primary aim of management described by Yapano et al.¹³ and Hoffman¹⁴ preferred nephrectomy as there was no improvement in function, in addition to increased susceptibility to trauma and high gastrointestinal disturbances. Kaura et al.² reported nephrectomy in 37.1% of the patients (42.1% in adults and 31.25% in children). In the present case considering the non-functioning status of the kidney, nephrectomy was done, and post-procedure the patient remains uneventful.

CONCLUSION

This case has been reported because of a rarity in this age group and I must say that even in the 5th decade of life it can be diagnosed. Therefore, we should never forget this unexpected entity in the differential diagnosis of an abdominal lump in this age group.

ACKNOWLEDGMENT

The authors express their warm appreciation to the patient for the full participation and allowing to publish this report. Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript.

Source of funding: Nil

Conflicts of interest: Nil

Authors' contributions:

NA planned the study, collected the data, analyzed, and prepared the report of the study. KS helped in writing, reviewing, and editing the manuscript.

REFERENCES

1. Sterling WC. Massive hydronephrosis complicated by hydro-ureter. Report of 3 cases. J Urol 1939;42:520–33.
2. Crooks KK, Hendren WH, Pfister RC. Giant hydronephrosis in children. J Pediatr Surg 1979;14:844–50.
3. Kaura KS, Kumar M, Sokhal AK, Gupta AK, Purkait B, Saini D, et al. Giant hydronephrosis: still a reality!. Turk J Urol 2017; 43: 337-44.
4. RabeaAhmedG. Bilateral Giant Hydronephrosis with Normal Serum Creatinine Level in an Elderly Female. Dubai Med J 2019;2:36–40.
5. Golcuk Y, Ozsarac M, Eseroglu E, Yuksel MB. Giant hydronephrosis. West J Emerg Med. 2014;15(4):356. doi:10.5811/west-jem.2014.2.19430.
6. Joseph M, Darlington D. Acute Presentation of Giant Hydronephrosis in an Adult. Cureus. 2020;12(6):e8702. Published 2020 Jun 19. doi:10.7759/cureus.8702
7. Shiping J, Sandeep Kumar J. “Unilateral Giant Hydronephrosis in Adult Female: A Rare Case Report”. J. Evol. Med. Dent. Sci. 2014; Vol. 3, Issue 31, July 31; Page: 8692-8696, DOI: 10.14260/jemds/2014/3108
8. Yang WT, Metreweli C. Giant hydronephrosis in adults: the great mimic. Early diagnosis with ultrasound. Postgrad Med J 1995;71:409-12.a
9. Shah SA, Ranka P, Dodiya S, Jain R, Kadam G. Giant hydronephrosis: What is the ideal treatment? Indian J Urol 2004;20:118
10. Yapanolu T, Alper F, Özbey, Aksoy Y, Demirel A. Giant hydronephrosis mimicking an intraabdominal mass. Turk J Med Sci 2007;37:177-9.
11. Sunder GI, Rajesh A2, Snigdha G. Giant hydronephrosis of kidney mimicking ascites: A case report. J. Med. Res. 2016; 2(2): 30-31.
12. Borin JF. Ureteropelvic junction obstruction in adults. Rev Urol. 2017;19:261–264.
13. Yapanolu T, Alper F, Özbey, Aksoy Y, Demirel A. Giant hydronephrosis mimicking an intraabdominal mass. Turk J Med Sci 2007;37:177-9.
14. Hoffman HA. Massive hydronephrosis. J Urol 1948;59:784-94.

Figure 1: Visible swelling involving almost right hypochondriac, right lumbar, right iliac regions and medially extending up to the midline.

Figure 2: Ultrasonography showing hugely dilated right pelvicalyceal system with a radio-opaque shadow in the pelvis.

Figure 3: X-ray abdomen erect PA view showing the ground-glass appearance of the right side of the abdomen with right elevated hemidiaphragm (blue arrows) and bowel displacing towards the left side and downward towards pelvis (red arrows).

Figure 4: Non-contrast computed tomography (axial) showing the giant hydronephrotic right kidney with a pelvic stone.

Figure 5: Non-contrast computed tomography (coronal) showing the giant hydronephrotic right kidney extending up to the iliac fossa with the displacement of bowel towards the left side.