



## **A Rare Case of Right Renal Agenesis, Hydronephrosis Left Side with Paper Thinning of Cortex with Rickets with Hypothyroidism**

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### **ABSTRACT**

The accumulation of too much fluid in the kidney due to kidney stones, infections, or ureteric blockage is known as hydronephrosis. When urine backs up in the kidneys due to ureteral obstruction or kidney stones that induce swelling in the kidney and the condition known as hydronephrosis occurs. The main cause of hydronephrosis in children is abnormal development of the upper urinary tract. Clinical signs and symptoms of hydronephrosis include pyrexia, back pain, dysuria and abdominal pain, murky and bloody urine, and irritability. A newborn is termed preterm and has a higher risk of problems if their birth weight is less than 2500 grams. We are presenting the hydronephrosis case of a male young patient. A thirteen-year-old was brought On May 25, 2023, at Acharya Vinoba Bhawe Hospital, a chief patient complained of burning during micturition, abdominal pain, distension in the abdomen for a month, and difficulty walking. Two months later, CEFTRAXONE 650 mg OD and PANTOP 15 mg IV OD, DNS 400 ml, and other treatments were started, following some diagnostic tests and a physical examination. 150mg KCL. neither diabetes nor hypertension in the past. The patient's overall health was fair, and their S1 and S2 sounds were audible normally. The patient's urea level rose to 81 mg/dl, and his creatinine level rose to 2.5 mg/dl and according to the investigation. Because of skilled nursing care, patients receive timely treatment and are less likely to suffer complications. The patient is no longer in danger, and their health has improved.

**CONCLUSION:** Here, we'd like to emphasize how a patient with hydronephrosis receives care from a primary care physician. A family practitioner is crucial for identifying risk factors and prescribing the appropriate imaging and testing to diagnose right renal agenesis, hydronephrosis left side with paper thinning of cortex, rickets aids in preventing mortality and further complications.

**KEYWORDS:** paper-thin cortex, micturition, distension, hydronephrosis.

### **INTRODUCTION:**

Hydronephrosis is a condition in which fluid builds up in the kidneys as a result of urine backing up due to ureteral blockage or kidney stones inducing kidney edema. One in one hundred newborns have this. The improper development of the upper urinary tract in children is what leads to hydronephrosis.<sup>1,2</sup> Pyrexia, back discomfort, dysuria, abdominal pain, murky and bloody urine, and irritability are some of the clinical signs and symptoms of hydronephrosis.<sup>3</sup> If a baby weighs less than 2500 grams when they are born, they are considered preterm and run a higher risk of complications.<sup>4</sup>

It's possible that a normal prenatal scan earlier picked up on a child's hydronephrosis. In that situation, a high-resolution ultrasound and MRI scan are recommended to evaluate your baby's health. Children's National Hospital's division of prenatal pediatrics suggests additional testing once your baby is delivered.<sup>5</sup> Ultrasound is crucial for identifying and preventing such anomalies in a developing infant. The ANC checkup is crucial for the easy detection of womb abnormalities and helps to avoid complications. In hydronephrosis, abdominal distension puts pressure on the bladder and raises the risk of complications.

According to several studies, infections and kidney stones are two prevalent causes of hydronephrosis in children. Abdominal distension, flank pain, and scorching urination are the major clinical manifestations. The KFT, LFT, and USG tests should be carried out as diagnostic investigations to help identify the precise cause and any anomalies. If a child is born with hydronephrosis, complications like UTIs, chronic kidney disease, and kidney stones may also develop. The ANC checkup is crucial to discovering fetal abnormalities and complications, which will help reduce those abnormalities and complications and prevent those complications. The course of treatment for these issues depends on the underlying reason. First, catheterization is used to empty urine, which helps to reduce pain and kidney damage.<sup>6</sup>

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**CASE PRESENTATION:**

*Figure 1: 13 years male child right renal agenesis with hypothyroidism*

A 13-year-old child admitted to hospital with a chief complaint of hypothyroidism, hypospadias, weakness, and incompetence was all present in the current case. Transverse delivery history includes postpartum hospitalization in the NICU, postpartum pneumonia history, and the development of muscle atrophy. This is because the patient has failed to flourish and now has hydronephrosis. Since the treatment, he feels better than he did earlier.

Physical examination and systemic examination were done. In the urinary system: the dilation of CBD approx. 10mm and paper thinning of cortex, max. ureter diameter is 1.7cm. The patient was unwell and awake during a general checkup. They were also breathing regularly, taking 22 b/min and their BP was 120/80 mmHg. when a patient was brought into the medical facility. The patient's health was in such bad shape, but after some investigation, she concluded that the patient was fine until she noticed right renal agenesis with left hydronephrosis with hemivertebrae that had been referred from the GMC and came with c/o necrosed abdominal distention that was gradual in its onset. There were no aggravating or relieving variables connected to it. Patients obtain prompt care and are at lower risk thanks to excellent nursing care. The patient is no longer in danger because of improved health.

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**DIAGNOSTIC FINDING:**

According to a general assessment, the general condition is unsatisfactory, the level of awareness is conscious, and the vital parameters are SpO<sub>2</sub> is 97%, BP is 120/80 mmHg, the temperature is afebrile, the systemic evaluation of the CVS reveals that S1 and S2 are audible, the respiration is 22 breaths/minute, and the pulse is 80 beat/min, but no murmur. The central nervous system and bilateral airways are both clear and the respiratory system. The radiological investigation of the ECG is sinus tachycardia in diagnostic assessment.



*Figure 2 pelvic anterior posterior view*



Figure 3 pharyngeal arterial posterior view

#### HEMATOLOGICAL INVESTIGATION

Sr.no	Name of investigation	Normal value	Patient value	Result
1	Hb%	13%	10%	decrease
2	T3	0.9	0.4	decrease
3	T4	5.0	4.70	decrease
4	TSH	4	7.12	Increase

#### THE PRIMARY DIAGNOSIS, THERAPEUTIC ACTION, AND RESULTS WERE:

After doing a physical examination and conducting an investigation, the doctor determined that the patient had right renal agenesis, hydronephrosis left side with paper thinning of the cortex, and rickets. Treatment, which included the administration of CEFTRAXONE 650 mg orally twice daily, PANTOP 15 mg IV orally twice daily, DNS 400 ml, and 150 mg of KCL intravenously, began.

#### THERAPEUTIC INTERVENTION:

The current instance was treated medically with CEFTRAXONE 650 mg OD, PANTOP 15 mg IV OD, DNS 400 ml, and KCL 150 mg injection.

#### NURSING PERCEPTIONS:

IV fluid was given to keep the electrolyte and fluid levels stable. medication is administered as per the doctor's order. Every two hours, vital signs should be monitored, intake and output evaluated, and a physical and neurological examination should be conducted

#### DISCUSSION:

Admission of a 13-year-old male child to Acharya Vinoba Bhave. Hospitalized on May 25, 2023, with major complaints of burning urination, stomach pain, abdominal distension, and inability to move for two months. No prior history of diabetes and hypertension. Following a medical the patient routinely took his medication after the examination and inquiry, and his outcome was average. He was admitted to Acharya Vinoba Bhave Rural Hospital for additional treatment.

One out of every 500 newborns have hydronephrosis, a common congenital disorder. In extremely rare circumstances, hydronephrosis can also appear later in life. Urine gets caught in the kidneys and drains into the bladder more slowly than it should due to the curable illness known as hydronephrosis. As a result, the kidney seems enlarged.<sup>7</sup> One kidney (unilateral) or both kidneys (bilateral) may be affected by hydronephrosis. It is frequently described as "prenatal" or "antenatal. Prenatal simply indicates that the child's hydronephrosis was discovered before birth. Before birth, hydronephrosis was discovered.<sup>8</sup>

According to several research, infections and kidney stones are two prevalent causes of hydronephrosis in children. Abdominal distension, flank pain, and scorching urination are the major clinical manifestations. The KFT, LFT test, and USG tests should be carried out as diagnostic investigations to help identify the precise cause and any anomalies. If a child is born with hydronephrosis, complications like UTIs, chronic kidney disease, and kidney stones may also develop. <sup>9</sup>The ANC checkup is crucial to discovering fetal abnormalities and complications, which will help reduce those abnormalities and complications and prevent those complications. These are treated according to the underlying cause first by catheterizing urine to relieve pain and kidney damage, and subsequently, the underlying cause is treated. Neglecting discomfort can occasionally make a problem worse.<sup>10</sup>

#### CONCLUSION:

Upon a patient's admission to the medical facility. The patient's health was in such bad shape, but now that some investigation of the finding of investigation, she diagnoses the Patient was alright then he noticed right renal agenesis with hydronephrosis left side with paper thinning of cortex, rickets referred from GMC came with c/o abdominal distention. Patients receive prompt treatment and are at lower risk because of competent nursing care. The patient's health situation has improved, and they are no longer at risk.

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