CASE REPORT

NEONATAL HYDROMETROCOLPOS: CLINICAL PRESENTATION AND THERAPEUTIC APPROACH

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Hydrometrocolpos (HMC) is a rare pediatric condition characterized by significant enlargement of the uterus and vagina due to the accumulation of fluid, generally caused by a blockage in the lower vagina. This disorder typically presents in newborns with the retention of normal genital tract secretions. The following case report highlights the clinical features, diagnostic process, and treatment of HMC in a newborn. A 3-day-old female presented to the emergency with dehydration, inability to pass stool, and feeding difficulties. Upon physical examination, dehydration and abdominal distention was observed. Initial treatments included hydration and antibiotics. Further investigations confirmed hydrocolpos, leading to an HMC diagnosis due to a congenital blockage in the reproductive tract. A pigtail catheter was used to drained 20ml fluid from the uterus and vagina. Significant clinical improvement as observed. After careful monitoring and treatment, including fluid management and nutritional support, the neonate was discharged on a full oral feed regimen, with plans for long-term nephrology follow-up. Conclusions: Early recognition of HMC is essential to prevent critical complications such as urinary obstruction, renal impairment, and potential rupture of the HMC. The clinical manifestations of HMC correlate with the degree of pressure exerted on adjacent organs, commonly causing hydronephrosis and abdominal swelling.

Keywords: Hydrometrocolpos; Hydronephrosis; Abdominal distention

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INTRODUCTION

Congenital hydrometrocolpos is a rare condition characterized by fluid or blood accumulation in the uterus and vagina resulting from distal vaginal obstruction blockages. HMC affects approximately 0.006% of full-term infants annually. There are several factors that might be causing this condition such as persistent cloaca, urogenital sinus abnormalities, and vaginal atresia. The most common cause is an imperforate hymen, occurring in 0.001% of cases.[1]

CASE REPORT

A 3-day-old female girl with bilateral enlarged kidneys and low amniotic fluid presented with the inability to pass stool, poor feeding, vomiting, abdominal distention, and fever. The patient was dehydrated with a distended abdomen. Treatment included hydration, IV antibiotics, urinary catheterization, and orogastric decompression. Labs indicated high serum sodium, creatinine, and urine leukocyte esterase. Ultrasound showed bilateral hydronephrosis with pelvic diameters of 13mm on the right and 7mm on the left (Figures 1 and 2), and a large midline cystic cavity indicative of Hirschsprung's disease-related megacolon (Figure 3). A barium enema suggested external compression on the distal colon.

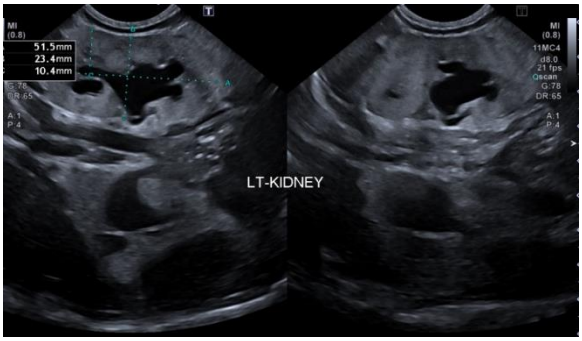

Figure-1: Left kidney of the patient

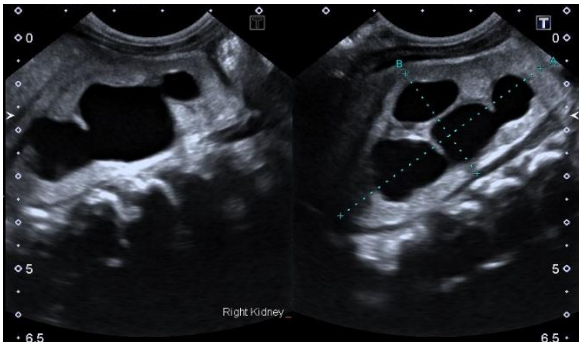

Figure-2: Right kidney of the patient

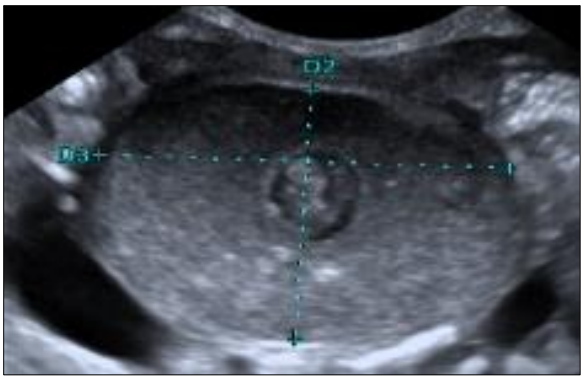

Figure-3: Midline cystic cavity suggestive of HMC

In the NICU, the patient received euvolemia maintenance and oral soda bicarbonate. An interventional radiologist was consulted, who passed a pigtail catheter under ultrasound guidance through the lower abdominal wall to decompress the uterus and vagina. Approximately 20ml of purulent fluid was removed during the procedure and the catheter was left in situ for any possible further drainage. The baby was allowed oral feed and gradually progressed to full feeds. The baby was shifted to the step-down unit from the NICU. The baby was allowed oral feed and gradually progressed to full feeds. The baby was shifted to the step-down unit from the NICU.

While being in the stepdown unit, serum levels of electrolytes and creatinine were followed serially that were in the normal range while serum creatinine levels were in decreasing trend.

The baby has been discharged home safely on total oral feed. Long-term nephrology follow-up visits were advised. Repeat ultrasound showed significant improvement in the hydronephrosis and absence of the previous fluid collection.

DISCUSSION

Hydrocolpos is a condition marked by the cyst-like enlargement of the vagina due to fluid accumulation. It can extend to include fluid collection in the fallopian tubes (hydrosalpinx) and uterus (hydrocolpos of the Müllerian duct, HMC).[2] This condition is categorized as a neonatal obstructive Müllerian duct anomaly, its exact nature being determined by the fetal development processes involving lateral and vertical fusion.[2]

The clinical signs of HMC are influenced by the degree of compression it exerts on adjacent structures. This can include various levels of hydronephrosis, as seen in the reported case. Reports have noted cases accompanied by constipation, while severe compression can lead to symptoms like intestinal blockage and acute urinary retention.[3] In advanced stages, HMC can present as a pelvic mass due to blockage at the vaginal outlet.[4] Draining HMC is advised to avert complications such as growth failure, rupture, recurrent infections of the urinary tract, and sepsis.[3]

During pregnancy, ultrasound is the mainstay for identifying HMC, indicated by a significant cystic mass in the abdomen and pelvis with a fluid-debris level.[4] MRI can be complementary in assessing fetal urogenital anomalies. After birth, HMC is confirmed via ultrasound and CT imaging.[4]

The recommended treatment involves draining the uterine cavity, which was the approach taken in this case. For HMC caused by an imperforate hymen or low vaginal atresia, a perineal surgical approach is preferred.[5] Interventions range from minor hymenotomies to more complex surgeries for extensive urogenital anomalies.[5]

CONCLUSION

In summary, HMC is a rare pediatric condition identifiable in prenatal scans, known for causing an abdominal cystic mass and compressive effects like urinary and bowel obstructions. It may also be associated with syndromic conditions, underscoring the importance of thorough patient evaluations for early management.

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