

Neonatal Hydrocolpos: A Case Report and Review of Literature

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Abstract

Congenital hydrocolpos presents rarely as cystic pelvic mass in neonates. Delay in diagnosis and management is associated with grave complications like sepsis and renal failure. The aim of this study is to emphasize on the importance of appropriate and prompt diagnosis of this condition.

Keywords : Congenital Hydrocolpos, Imperforate Hymen.

I. INTRODUCTION

Congenital hydrocolpos is the abnormal distension of vagina that can present as pelvic cystic lesion in neonates. In a newborn female, it can be due to imperforate hymen, a membrane occluding the lower third of vagina or vaginal atresia [1]. Congenital hydrocolpos can be associated with genitourinary anomalies from persistent urogenital sinus to cloacal dysgenesis.

The purpose of this report is to develop high index of suspicion for congenital hydrocolpos in neonates with pelvic mass to facilitate early diagnosis and prompt management for prevention of complications like hydronephrosis and gastrointestinal obstruction secondary to mass effect.

II. MATERIALS AND METHODS

We report a rare case of 6 days old female child who presented with abdominal distension with history of pelvic cyst on antenatal USG (antenatal USG images were not available).

On postnatal Ultrasonography (USG) day 6, she had thin walled large cystic lesion in the pelvis extending up to the supraumbilical region with fluid debris level which was displacing the uterus superiorly and urinary bladder anteriorly [Figure.1]. There were no septations or solid component seen. Hydroureter and hydronephrosis on both sides were seen. Rest of the USG findings were normal.



Figure.1: Longitudinal Image of Pelvis Shows Cystic Lesion with Debris Displacing the Uterus Anterosuperiorly.

She underwent contrast enhanced CT scan (CECT) to delineate the organ of origin of pelvic cystic lesion. On CECT, cystic dilatation of vagina was seen with narrowing of the distal vagina which suggested hydrocolpos causing compression on distal ureters with resultant hydroureter and hydronephrosis on both sides [Figure 2a, 2b].

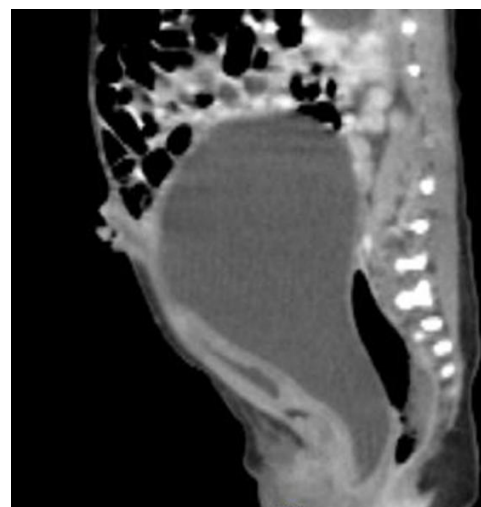


Figure.2a: Sagittal image of CECT shows cystic dilatation of Vagina with anteriorly displaced urinary bladder.



Figure 2b: CECT sagittal image shows cystic dilatation of vagina with anterosuperior displacement of uterine cavity seen communicating with vagina



Figure.3: Introitus shows bulging membrane.

On inspection of vagina, a bulging membrane was seen at the level of hymen [Figure 3].

These findings were compatible with imperforate hymen with hydrocolpos.

The child was taken to the operating room and all previous findings were confirmed. The patient

underwent hymenotomy and large amount of milky white fluid was drained and sent for culture which was negative for any pathogenic organism.

Follow up USG showed minimal fluid in the vagina.

III. RESULTS AND DISCUSSION

We report here a case of hydrocolpos secondary to imperforate hymen with resultant hydroureter and hydronephrosis.

In this condition the vagina is grossly distended-hydrocolpos and on occasions the accumulated fluid can stretch the cervical canal and the body of the uterus as well known as hydrometrocolpos. The cyst is filled with clear or mucoid fluid which tends to become purulent from bacterial invasion, giving rise to pyocolpos. The distended genital tract may cause urinary obstruction and the enlargement of the bladder may hinder palpation of the vaginal cyst. Hydroureter and hydronephrosis may follow and pyuria will be a further complication [1].

Congenital hydrocolpos is thought to be caused by a combination of vaginal obstruction and fetal cervical gland secretion caused by stimulus of maternal hormones [2]. Vaginal obstruction is caused by either imperforate hymen, occluding membrane at lower third of vagina, transverse vaginal septum or vaginal atresia. Stenosis or atresia of the vagina is a more common cause of neonatal hydrocolpos than imperforate hymen, as most cases of imperforate hymen are apparently not discovered until menarche, when they present as hematocolpos. Perhaps the minority of cases found early in life, for reasons unknown, are more sensitive to or are exposed to higher levels of maternal estrogens and therefore develop detectable dilatation of the genital tract in perinatal period [3]. Westerhout et al reported 11 cases of hydrocolpos with an overall incidence of 1 in 16,000 female neonates [4].

Association of an imperforate hymen with other genitourinary anomalies is well known. A detailed prenatal and postnatal USG is almost always required to delineate anatomic details. The associated anomalies include cloacal anomalies, imperforate anus, persistent urogenital sinus, renal agenesis and uterine anomalies [5]. It can be associated with several syndromes like McKusick-Kaufman, Ellis-van Creveld, Bardet-Biedl syndrome and cloacal dysgenesis sequence [5]. Our patient was eumorphic with no associated congenital anomaly.

The most common complication of hydrocolpos is compression of the bladder, leading to hydronephrosis, which can ultimately cause kidney damage. Other complications including sepsis and pyocolpos have been reported in the literature ([6]-[8]). Another frequent complication is gastrointestinal obstruction due to anal atresia or imperforate anus or simply by compression by hydrocolpos [7]. Complications of hydrocolpos can be decreased by early diagnosis and timely intervention and drainage of accumulated fluid.

IV. CONCLUSION

Hydrocolpos is a rare disease entity found in neonatal females. Failure to identify it promptly may lead to death or to irreversible urinary disease. It should be suspected when a prenatal US identifies a midline abdominopelvic mass. Early diagnosis and simple aspiration or incision of the membrane will suffice to save a life.

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