

Prenatal diagnosis of fetal hydrometrocolpos

Diagnóstico pré-natal de hidrometrocolpos fetal

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Abstract

Fetal hydrometrocolpos as a result of congenital imperforate hymen is rarely diagnosed prenatally. Although it may be associated with syndromic disorders, fetal hydrometrocolpos secondary to imperforate hymen is usually an isolated finding and has a good prognosis. Spontaneous regression in utero may occur. The authors report a case of fetal hydrometrocolpos diagnosed at 26 weeks of gestation.

Keywords: Hydrometrocolpos; Imperforate hymen; Ultrasound; Prenatal diagnosis.

INTRODUCTION

Fetal hydrocolpos results from obstruction of lower genital tract, leading to accumulation of secretions that are produced in the fetal life due to circulating maternal estrogens. In hydrometrocolpos the uterus is also dilated. The occurrence of this anomaly is estimated to be 1 in 16 000 female newborns¹. It is responsible for 15% of all abdominal masses detected in female infants². However, they are rarely diagnosed prenatally. These anomalies appear as anechoic pelvic masses during ultrasound examination, usually during the third trimester. The differential diagnosis with other pelvic cystic masses includes enlarged bladder, ovarian cyst, sacrococcygeal teratoma, anterior sacral meningocele, mesenteric cysts and digestive duplications.

CASE REPORT

A 21-year-old healthy pregnant woman was referred from primary care at 14 weeks because of nuchal translucency superior to P95, with no other apparent anomalies. It was her second pregnancy, she had a history of a previous first trimester abortion. Amniocen-

tesis was performed at 16 weeks and revealed a 46,XX karyotype. Echocardiography was also normal. During second trimester ultrasound a multicystic left kidney was found, with no other anomalies detected.

A sonography performed 4 weeks later, during the 26th week revealed a left kidney with two small cysts and also an anechoic image in the fetal pelvis just beneath the bladder that extended to the fetal vulvae, causing ballooning in what seemed to be the hymen (Figure 1). A 3D image of the fetal vulva revealed a bulking hymen (Figure 2). A sonographic evaluation was requested to the Prenatal Diagnosis Center of Maternidade Bissaya Barreto, a tertiary hospital, and the same conclusions were reported. The integrity of the rectum and anal canal seemed preserved, meconium was visible in the rectum (Figure 3), and so the most probable hypothesis was a fetal hydrometrocolpos as a result of an imperforate hymen.

Sonographic controls were performed in 4 week intervals and the hydrometrocolpos progressively regressed. At 35 weeks it was no longer visible. The two left renal cysts maintained their dimensions throughout the pregnancy. The fetus maintained a normal growth with normal amniotic fluid indices.

Labor was induced with misoprostol at 40 weeks and 5 days. A cesarian section was performed due to arrest at the second stage of labor, and a female newborn was delivered weighing 3640g. The Apgar score was 9 and 10 at 1st and 5th minute respectively. Examination of the neonate revealed the presence of a redundant hymen

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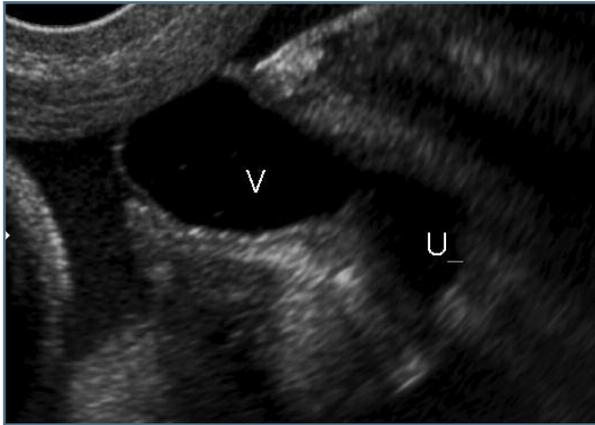


FIGURE 1. Sagittal view of the fetal pelvis during transvaginal ultrasound showing an anechoic mass extending to the vulva (V-vagina, U-uterus)



FIGURE 3. Sagittal view of the fetal pelvis during transvaginal ultrasound showing meconium (M) in the rectum



FIGURE 2. 3D image of the fetal vulva, showing a bulking hymen



FIGURE 4. Neonatal examination showing a redundant hymen

(Figure 4), without visible perforation but presenting drainage of some mucous secretions. No apparent malformations were found. Renal ultrasound performed at day 15, 1 month and 2 months later, showed the two left renal cysts with stable dimensions. The infant will be proposed for a complete hymenotomy.

DISCUSSION

Hydrometrocolpos can result from imperforate hymen, vaginal atresia, transverse vaginal septum or urogenital malformations, such as persistent urogenital si-

nus and cloacal dysgenesis³. Associated anomalies are rare with an imperforate hymen but are frequent with the other conditions^{4,5}, and so a detailed ultrasonography is essential to establish an accurate prognosis. A large hydrometrocolpos can cause lower urinary tract obstruction and hydronephrosis. When severe, oligohydramnios can occur⁶.

In this case, the finding of a cystic pelvic mass associated with a protruding membrane in the fetal vulva was highly suggestive of an imperforate hymen. The presence of meconium was fundamental for the visualization of the integrity of the rectum and anal canal, allowing the exclusion of a cloacal malformation. The disappearance of the hydrometrocolpos later in gestation could be due to progressive accumulation of se-

cretions which led to an elevation of intravaginal pressure, resulting in perforation of the hymeneal membrane. The finding of an associated multicystic left kidney without other anomalies, and the stability of the size of the cysts throughout the pregnancy was reassuring.

The incidence of congenital imperforate hymen has been estimated to be 0,1% in female newborns⁷. The majority remains asymptomatic until puberty. Rare cases of prenatal diagnosis of hydrometrocolpos secondary to imperforate hymen were reported⁸⁻¹¹, mostly during the third trimester, but cases have been reported as early as 25 weeks¹². Associated abnormalities have been described¹³ and urinary tract obstruction may occur¹⁴. Magnetic resonance imaging has been used to help in the differential diagnosis with other causes of hydrometrocolpos, because it can provide a precise definition of pelvic anatomy¹⁵. In our case, ultrasound was sufficient to establish the diagnosis. Standard treatment of imperforate hymen consists of hymenotomy to prevent urinary complications and endometriosis later in life. However asymptomatic imperforate hymen can be managed expectantly, because spontaneous perforation has been described⁷.

In conclusion, the presence of a fetal hydrometrocolpos must prompt a detailed ultrasound evaluation. The sonographic finding of meconium in the rectum allows the clear visualization of the integrity of the rectum and anal canal, which is essential to exclude cloacal malformations. Fetal hydrometrocolpos secondary to imperforate hymen is usually an isolated finding and has a good prognosis.

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