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CASE REPORT

The Role of Ultrasound in the Diagnosis of Hydrometrocolpos due to Vaginal Atresia; Case Report

Vajinal Atrezi Nedeniyle Gelişen Hidrometrokolpos Tanısında Ultrasonun Rolü; Olgu Sunumu

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ABSTRACT

Introduction: *Neonatal hydrometrocolpos is a rare anomaly of female reproductive tract secondary to failure of canalization. Newborn may present with abdominal mass and rarely with hydroureteronephrosis.*

Case: *We reported sonographic features of a huge hydrometrocolpos secondary to high vaginal atresia concomitant with bilaterally hydroureteronephrosis in a 3-day-old girl.*

Conclusion: *Ultrasonography is essential diagnostic modality which brings out nature of abdominal mass and its complications.*

Keywords: *Hydrometrocolpos; hydroureteronephrosis; ultrasonography; vaginal atresia*

ÖZET

Giriş: *Neonatal hidrometrokolpos kadın üreme yollarının gelişim defektine bağlı gelişen nadir bir anomalisidir. Yenidoğanda genellikle abdominal kitle, nadiren hidroüreteronefroz ile presente olur.*

Olgu: *Bu yazıda 3 günlük yenidoğanda yüksek vajinal atreziye bağlı gelişen dev hidrometrokolpos ve eşlik eden bilateral hidroüreteronefrozun sonografik bulgularını sunduk.*

Sonuç: *Ultrason abdominal kitlenin orijini ve komplikasyonlarını ortaya koyabilen önemli bir tanısal modalitedir.*

Anahtar Kelimeler: *hidrometrokolpos; hidroüreteronefroz; ultrasonografi; vajinal atrezi*

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INTRODUCTION

Neonatal hydrometrocolpos is a rare anomaly of female reproductive tract, estimated to occur in 1 in 5,000-10,000 live female births (1). In newborn, vaginal outflow obstruction is potential for significant accumulation of cervicovaginal secretion during fetal life, occurs secondary to circulating estrogens and commonly causes abdominal distention. Hydrometrocolpos may also be present with hydroureteronephrosis or rarely with intestinal obstruction due to compression of the mass (2, 3). We reported sonographic features of a huge hydrometrocolpos secondary to high vaginal atresia with bilaterally hydroureteronephrosis in a 3-day-old girl.

CASE

A three-day old girl with abdominal distension, had an abdominal cystic mass which is antenatally diagnosed with fetal US. She had a history of oligohydramnios and bilateral hydroureteronephrosis also. Physical examination of genital system was normal and also there were no signs of associated anomalies such as polydactyly proving any syndrome. US revealed that the complicated cystic mass, being the vagina itself, which is 36 x 39 x 51 mm in size, is connected with the uterus (Figure 1).

Hence, the mass diagnosed as hydrometrocolpos and the girl was treated by pediatric surgery department. In addition, the mass compressed the trigon of the bladder, which was the reason of the bilateral hydroureteronephrosis. Under general anesthesia with an infraumbilical transverse incision, an opening was made on the anterior portion of the distended vagina and approximately 50 cc of mucoid fluid was aspirated. After cleaning the cavity, the lower limit of the vagina was seen. It was about 2 cm proximal to the normal vaginal opening in the vestibule. While working from the vagina, one surgeon excised the septum while another at the same time guided the vaginal operator through the abdomen. Marsupialization of the edges of

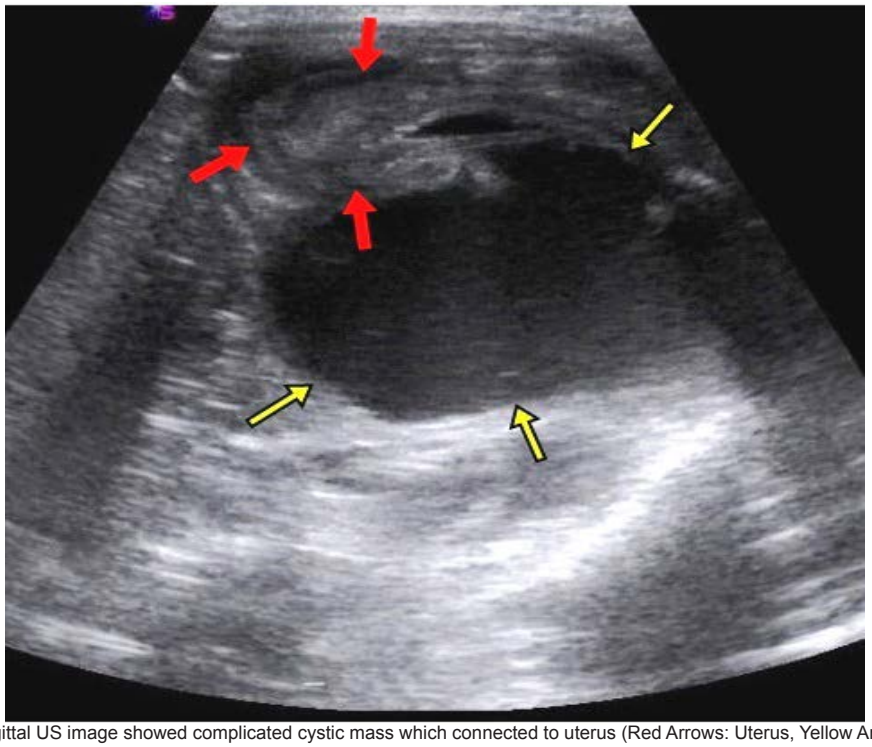

Figure 1: Sagittal US image showed complicated cystic mass which connected to uterus (Red Arrows: Uterus, Yellow Arrows: Vagina).

the incised septum was done to the edges of introitus to avoid possibility of stenosis. Finally a catheter was placed to enlarge the area of atresia. Two weeks later, on the follow up sonography abdominal mass disappeared and normal uterus was seen. Further, the hydroureteronephrosis also regressed in time.

DISCUSSION

Neonatal hydrometrocolpos is a rare anomaly of female reproductive tract, estimated to occur in 1 in 5,000-10,000 live female births (1). Although most cases are sporadic, familial occurrence and autosomal recessive mode of transmission is reported. If solely the vagina is involved, it is termed hydrocolpos, but if it is associated with uterine enlargement, it is called as hydrometrocolpos. These lesions are due to failure of canalization of female reproductive tract and can be seen solely or with other congenital anomalies such as polydactyly and congenital heart defect which named McKusick-Kaufman an autosomal recessive syndrome (4). In newborn, vaginal obstruction could result from different conditions such as high vaginal septum, varying degrees of vaginal atresia, cloacal malformation, or commonly an imperforate hymen (5). In the present report, the vaginal obstruction was caused by a high vaginal atresia, The blockage of the vagina caused accumulation of mucus secretions, which are secondary to stimulation of uterine and cervical glands by maternal estrogens, at the proximal segment of vagina and uterus (6). Hence, at US uterus and vagina are both distended that was called as hydrometrocolpos.

The presenting clinical features vary with age. The anomaly may stay undetected until adolescence, patient presents with primary amenorrhea or abdominal pain due to an obstructed uterovaginal tract (1). So, there are few cases reported during infancy or early childhood in the literature. In newborn, vaginal outflow obstruction is potential for significant accumulation of cervicovaginal secretion during fetal life that occurs secondary to circulating estrogens and commonly causes an abdominal mass. Hydrometrocolpos may also present with hydroureteronephrosis or rarely intestinal obstruction due to compression of the mass (2, 3).

Delay in diagnosis may cause several complications such as infection, sepsis and endometriosis (1). On plain abdominal films, gray appearance of the abdomen and pushed gas-containing loops of bowel due to cystic mass may also be a clue for diagnosis. US is the essential diagnostic modality. A pelvic US most often demonstrates an ovoid mass behind the bladder, either cystic or complex distending the uterus and vagina, also evaluates the status of the urinary system especially for hydroureteronephrosis. This mass should be discriminated from the rectosigmoid colon (either normally filled with meconium), which is also seen as a tubular structure. MR imaging is highly sensitive to reveal other associated anomalies.

In our patient, US demonstrated complicated cystic mass that continued with uterus corpus. Normal rectum was identified behind the mass and bladder. Hence we did not perform another radiological imaging and diagnosed the mass as

hydrometrocolpos. Also, the mass compressed the trigon of bladder and caused bilateral hydroureteronephrosis which detected by US clearly.

The definitive treatment includes drainage of the accumulated fluid and establishment of communication between the vagina and the vulva (7).

This case report shows the fact that hydrometrocolpos should be considered in the differential diagnosis of a female newborn with an abdominal mass with or without urinary obstruction.

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