Ultrasound diagnosis of pyocolpos

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ABSTRACT

Cystic dilatation of vagina due to genital tract obstruction is rare. The cause of obstruction can be imperforate hymen, transverse vaginal septum and vaginal atresia. We pictographically demonstrate a case of 45 days old infant presenting with abdomino-pelvic cystic mass.

INTRODUCTION

Hydrocolpos or pyocolpos is a rare congenital disorder, this involves the cystic dilatation of vagina due to the accumulation of mucus secretions/pus resulting from the genital tract obstruction. The obstruction can be produced by imperforate hymen, transverse vaginal membrane or vaginal atresia. Hydrocolpos or pyocolpos commonly appears either in neonatal period or at menarche. The sonographic images and relevant surgical images of pyocolpos in a 45-day-old infant presenting with cystic abdominopelvic mass and distension of abdomen have been presented.

CASE HISTORY

A 45-day-old infant presented with the history of intermittent distension of abdomen since birth with cystic feel of abdomen on clinical examination.

Antero-posterior and lateral radiographs of abdomino-pelvis region displacing bowel loops superiorly and presenting with the distension of the abdomen and bulging of flank stripes [Figure 1A]. On ultrasound of the abdomen and pelvis, a large conical structure with a size of 9 × 6 × 4 cm (volume: 90-100 cc) and cystic nature was found to be lying deep in pelvis, extending upto the epigastrium. It was found to be posterior to the urinary bladder and causing the anterior compression and displacement of urinary bladder [Figure 1B]. The uterus was nondistended (measuring approximately 3 × 2 × 1.5 cm) and identified cranially in continuity with the cephalad aspect of the cystic mass in the epigastrium [Figure 2]. The cystic lesion shows low-level internal echoes with fluid debris level in the dependent portion [Figure 3]. On transperineal sonography, 1 cm in the distal portion of normal vaginal cavity was not observed, indicating vaginal atresia in the distal portion [Figure 4]. There was bilateral mild to moderate hydronephrosis due to compression over
the ureters by the cystic lesion [Figures 5 and 6]. The patient underwent exploratory laparotomy, which revealed pyocolpos. hugely dilated vagina extending from the pelvis to epigastrium was observed with the uterus positioned on the top of dilated vagina [Figures 7 and 8]. The vaginal contents were drained from the vaginal aspect by a small incision, which revealed pus (approximately 100 ml) draining under pressure from

Figure 2: Sonogram showing uterus cephalad to the cystic lesion

Figure 5: Right kidney is hydronephrotic

Figure 3: Sonogram revealing pelvic lesion with a cystic nature and fluid-debris level in the dependent portion

Figure 6: Left kidney is hydronephrotic

Figure 4: Transperineal sonogram revealing abnormal vaginal septum caudal to the cyst

Figure 7: Intraoperative photograph showing the distended vagina and uterus positioned over it
behind the urinary bladder and extends into abdomen.[1,2] Urinary tract obstruction is due to compression over the ureters, leading to bilateral hydronephrosis.[1] Urinoma may develop due to the obstruction of the ureters.

In a neonate or infant, a large tubular cystic fluid-filled structure is observed on ultrasound, which is found low in the pelvis, extending into the abdomen.[1] A normal vagina cannot be separately identified. The uterus, whether distended or not, can be identified in continuity with the cephalad aspect of the mass.[1] There may be associated distension of uterus and fallopian tubes. The cervix is identified as an hourglass constriction between the dilated and the distensible uterus above and the vagina below. This helps to differentiate hydrocolpos from hydrometrocolpos.[1] Sonographically, it is difficult to differentiate hydrocolpos from pyocolpos because of similar appearance of pus and mucus secretions.

The differential diagnosis of hydrocolpos on ultrasound shows ovarian cyst, meconium cyst, duplication cyst, bladder or ureteral abnormality or rectovaginal fistula.[3] In order to plan a reconstructive surgery, it is essential to know not only the level of obstruction but also its cause.[1] Transperineal ultrasound can be used to evaluate the length of stenotic segment (usually 1-4 cm)[1] and to find any solid tissue septum extending from the caudal aspect of the dilated vagina to the perineum.[1,3]

The recognition of ultrasound features of pyocolpos is critical as the findings at clinical examination are often vague. In particular, if the case presents as a large lump in the abdomen in a neonate, many possibilities, including neoplasm, renal masses, duplication cysts, etc, are considered. Sonography helps to differentiate all these conditions and helps us in reaching a specific diagnosis.

REFERENCES