A case of imperforate hymen in newborn infant causing hydrometrocolpos and hydronephrosis

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Imperforate hymen is a common congenital malformation, but usually remains asymptomatic and not detected until menarche. Neonatal hydrometrocolpos caused by imperforate hymen is reported to be very rare. We report a case of hydrometrocolpos in newborn presenting with pelvic mass and bulging membrane in vaginal introitus causing both hydronephrosis which is treated surgically with good result.

Key Words: Imperforate hymen, Neonatal hydrometrocolpos, Hydronephrosis

The hymen, a thin mucous membrane is the junction of the sinovaginal bulbs with urogenital sinus. This membrane usually ruptures and is partially reabsorbed during the later stages of development. Failure of this process will result in a congenital malformation called imperforate hymen.

Imperforate hymen is a common congenital malformation of the female genital tract and a sporadic disease with an incidence of 0.014 to 0.1%. Imperforate hymen related symptoms usually do not appear until puberty. As considerable amount of menstrual blood accumulate, hematocolpos and hematometrostocolpos will develop. The most common presenting symptoms are cyclic lower abdominal pain accompanied by a history of primary amenorrhea, palpable abdominal mass and bulging mass in the vaginal introitus. The patient may also have acute urinary discomfort and constipation from increasing amount of menstrual blood accumulation.

In neonatal period, imperforate hymen may result in mucocolpos and hydrometrocolpos. But, it is extremely rare with incidence of 0.006%.

CASE REPORT

A female infant was transferred to Neonatal Intensive Care Unit of the Department of Pediatrics in our Hospital on the next day of birth because of abdominal mass and protruding vaginal mass.

In the past history, 7 cm sized large cystic intra-abdominal mass was diagnosed by antenatal ultrasound examination and the baby was delivered by cesarean
section at 38 weeks +2 days of gestation, weighing 4,040 gm. After birth, she had distended abdomen but was generally in good condition, and showed good urination and stool passage. On the next day, she was transferred to our clinic because protruding mass was detected through vaginal orifice.

At the physical examination, the baby’s abdomen was soft, but distended above the umbilicus. There was a whitish bulging membrane between the labia and the membrane was protruded with increased intra-abdominal pressure (Fig. 1). Although 160 cc of urine was drained by urethral catheter, abdominal distension was not improved.

On abdominal ultrasound examination, the bladder was empty, but there was 10 cm sized cystic mass posterior to the bladder and bilateral mild hydrenephrosis. Pelvic magnetic resonance imaging was performed. 10x5 cm sized, gourd-shaped cystic mass extended from the vagina to above the umbilicus and displaced the bowel upward (Fig. 2). Mild bilateral hydroureter and hydronephrosis was also found, but other anomaly was not observed.

On the 4th day after admission, the baby’s body temperature rose to 38.2°C. urine culture revealed bacteriuria of E. coli more than 100,000/mm³. After antibiotic treatment for urinary tract infection, the body temperature returned to normal. Other routine laboratory test was normal.

Under the impression of hydrometrocolpos caused by imperforate hymen, we performed hymenotomy. The surgery was performed under general anesthesia in the operating room. The baby was in the lithotomy position at the time of surgery.