A female infant with an inguinal hernia containing the uterus and bilateral ovaries

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Abstract

Indirect inguinal hernia is one of the most common congenital abnormality in children. In approximately 15–20% of female patients, the hernia sac contains an ipsilateral ovary, but a few cases have been reported in which the uterus and both ovaries are within the hernia sac. Ultrasonography is a very effective tool to detect prolapsed organs in inguinal hernia; however, detection may be difficult in infants. The present study describes a rare case of inguinal hernia containing the uterus and both ovaries. The hernia was sliding hernia and Bevan’s technique was adopted for radical herniorrhaphy. The clinical features of the disease are discussed.

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1. Case report

A female infant was delivered at 37 weeks of gestation with a birth weight of 2616 g. The mother noticed a left inguinal mass on the infant and consulted a home doctor. Inguinal hernia was suspected and the infant was referred to the hospital for further examination, followed by treatment of an asymptomatic left inguinal mass at two months old.

Ultrasonography revealed that the inguinal mass contained an ovary. The uterus was displaced to the left side of the abdomen. Color Doppler showed healthy blood flow to the prolapsed ovary. The right ovary could not be detected at that examination, and the final diagnosis was inguinal hernia with a prolapsed left ovary.

We planned the elective surgery a week later because prolapsed organs were well maintained their blood supply and movable by palpation. A herniorrhaphy was performed by an inguinal approach. During surgery, the uterus and left ovary were extracted from the hernia sac (Fig. 1a). After the procedure, the surgeon palpated the inguinal mass at the median part of the inguinal canal. Close examination revealed the right ovary prolapsed deeply in the hernia sac (Fig. 1b). The right ovary was extracted from the hernia sac, which was edematous but well perfused. All prolapsed organs were put back into the abdominal space. As left fallopian tube slid into the hernia sac, once low ligation was done after dissecting the left round ligament, then the hernia sac was inverted into the peritoneal cavity and internal inguinal ring was closed by purse string suture, whose technique is known as Bevan’s technique [8]. The postoperative course was uneventful, with no recurrence at four months.

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2. Discussion

Inguinal hernia which complicated with the prolapse of the ovary into the hernia sac has a high prevalence of 15–20% in females [1]. However, inguinal hernias containing the uterus and an ipsilateral ovary are infrequent. Furthermore, inguinal hernias that contain the uterus and both ovaries are thought to be extremely rare, and only six cases have been reported in the literature [2–7]. Interestingly, in the six reported cases, the left side was affected, although the reason for this is not clear.

Several hypotheses have been proposed regarding the pathophysiology of this type inguinal hernia [7]. One theory states that the prolapsed ipsilateral ovary pulls the uterus and the opposite ovary into the hernia sac because these tissues are closely connected by the continuous ligament system. Another theory is that the uterus and the opposite ovary are not anchored firmly in the patient and are easily displaced to the hernia sac. The third proposal is that high intra-abdominal pressure caused by crying forces prolapse of the organs into the hernia sac. These factors may interact in some cases.

Ultrasonography is a very effective tool to detect prolapsed organs in inguinal hernia [2,7] but in some cases it is difficult to detect all the reproductive organs in infants. In the present case, preoperative ultrasonography demonstrated that the uterus was in the abdominal space; however, during surgery, the uterus was identified in the hernia sac. If the prolapsed right ovary had been overlooked during surgery, a serious complication such as injury to vital organs may have occurred. It is important to remember that although rare, prolapsed organs in females may include not only the ipsilateral ovary, but also the uterus and the opposite ovary. Therefore, the content of the hernia sac must be thoroughly evaluated at surgery.

The timing of the surgery is another important issue and if the incarceration is suspected an emergency operation is recommended [2,6]. In our case the herniated organs were well maintained their blood supply and movable by palpation, whose findings indicated the state of the hernia as just the prolapse of the organs and not the incarceration and the patients underwent the surgery a week after the diagnosis as an elective surgery.

The sliding hernia in the female is so common, up to 40% in its incidence [1]. The some operative procedures for the sliding hernia in the female patients have been reported before [1,5] and the most simple and easy method is Bevan’s technique [8], which we adopted in the reported case because a left fallopian tube slided into hernia sac. If the herniated organs were not sliding into hernia sac the simple high ligation may be enough as the herniorrhaphy even for the hernia containing the uterus and ovaries.

Conflict of interest statement

All authors have no conflict of interest.

References