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CASE REPORT

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A rare case of ectopic ovary

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Introduction

An inguinal hernia containing an ovary and fallopian tube is extremely rare in a woman of reproductive age. Ovarian and fallopian tube inguinal hernias are commonly associated with defects in genital tract development [1]. We report a case of a woman presenting with primary infertility, unicornuate uterus, single (right) kidney, and ovarian and tubal inguinal hernia the cycle.

Case report

A 25 year old woman, presented at the out patient clinic for evaluation of primary infertility of 2 years duration. She had a regular menstrual cycle of 34-37 days with average painless flow for 5-6 days. Her family history was unremarkable.

Past history revealed initiation of antitubercular treatment on the basis of fine needle aspiration cytology (FNAC) of the left inguinal lymph node with the report suggestive of granulomatous lymphadenopathy of tubercular nature. The treatmnet was withheld after 2 months as repeat FNAC showed features sugestive of benign cystic lesion. On clinical examination, her secondary sexual characters were normal and there was no generalized lymphadenopathy. On abdominal examiantion, a superficial oval mass approximately 3 cm in size, firm, mobile and nontender was palpable above the symphysis pubis, slighly towards left of the midline. Speculum and vaginal examinations were unremarkable. Previous ultrasonography showed ovulatory right ovary and non-visualized left ovary. Routine investigations for infertility evaluation were within normal limits. Transvaginal sonography revealed normal size uterus deviated to right with normal right ovary and nonvisualized left ovary. Abdominal ultrasonography of the left inguinal region suggested a well defined structure with 6-7 hypoechoic areas suggestive of follicles and an echo pattern suggestive of ovary. Her hormone profile on day 4 of the cycle was FSH 4.6 mIU/mL, LH 8 mIU/mL, estradiol 144.5 pg/mL, TSH 9.06 ?IU/mL and PRL 39.27 ng/mL.

Hysterolaparoscopy was performed as a part of infertility evaluation. Hysteroscopy revealed a barrel shaped uterine cavity with only right ostium visualized at the apex of the cavity. The findings suggestive of unicornuate uterus. Laparoscopy revealed a right unicornuate uterus with left rudimentary horn. Right cornu was well developed with normal round ligament and ovarian ligament. Right ovary was normal with short and convoluted right fallopian tube. On left side a rudimentary horn of the uterus was seen. Left fallopian tube and left ovary could not be visualized. Left round ligament was traced to internal inguinal ring. On pressing the suprapubic mass and pulling the left round ligament, left ovary and rudimentary left fallopian tube could be seen coming in the abdomen through the internal inguinal ring. On chromopertubation no dye spilled through either tube. Herniorraphy was suggested but the patient refused it.

She again presented with the same complaints after 3 years during which time she had undergone hysterosalphingography showing unicornuate uterus with right cornual block and one attempt of failaed in vitro fertilization and embryo transfer (IVF-ET) procedure. Her records showed follicular maturation and oocyte retrieval percutaneously from the left ovary in the suprapubic region.

She was again suggested intraabdominal placement of the gonad

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with herniorrhaphy. Sonography was done to rule out any urinary tract malformation; left kidney was not visualised. Intravenous pyelography also revealed a single normally placed right kidney.

Inguinal herniorraphy was performed under general anesthesia. The hernial sac contained ovary and fallopian tube, which were returned to the peritoneal cavity and sutured to left uterosacral ligament. Hernioplasty was done in the usual way.

Following this, the patient underwent IVF-ET procedure twice; both attempts were unsuccessful though the left ovary responded well to ovulation induction agents and retrieval could be successfully performed transvaginally.

Discussion

Hernia of an ovary is rare and 95% of ovarian hernias are inguinal [2]. Normally the descent of the ovary through the canal of Nuck to the base of labium majus is prevented by the fixation of the gubernaculum of the ovary – the anlage of the ovarian and round ligaments – to the cornu of the uterus. The distal end of the gubernaculum is attached to the base of the labium majus. The canal of Nuck normally becomes obliterated by the end of the 8th month of intrauterine life. If, however, the canal of Nuck remains open, shortening of the distal end of the gubernaculum or the change in the relative growth of the parts, together with failure of the attachment of the proximal end of the gubernaculum in time to the deformed or underdeveloped uterus, causes the ovary to be pulled into the canal of Nuck lying within the open inguinal canal [2,3]. The tube follows the ovary into the canal, since the proximal portion of the mullerian duct is closely associated with the ovary in its development [3].

Donald [2] and Mayer and Templeton [3] pointed out that inguinal ectopia of the ovary presents certain characteristics, which are not found in simple ovarian hernia. In true ectopia the tube usually accompanies the ovary. In both instances a persistence of the canal of Nuck, and congenitally long ligaments of the ovary and of the tube play a role in the production of the abnormal position. Inguinal ovarian hernia is dependent on repeated increases in intraabdominal pressure, e.g. pregnancies, bronchitis, whooping congh [4], and possibly adhesions of the ovary to the herniated mesentery or an intestinal loop [3].

In 1941, Mayer and Templeton [3] compiled and evaluated practically all the cases reported in the world literature and divided the 195 cases in those in which definite inguinal ectopia of the ovary appeared to be present (n=138) and those in which there was a questionable element (n=57 cases). They reported that, of the 195 cases of tubo-ovarian hernias, 64% were in children under 2 years of age, and 71% in children under 5 years of age.

Ectopia of the ovary may be accompanied with additional maldevelopments of the genital tract. Maldevelopment of the internal genitalia is accompanied at times with anomalous changes in the renal system. Of the 195 cases compiled by Mayer and Templeton [3], three had renal anomalies, 14 had abnormalities of the genital system, and two had changes occurring in the two systems simultaneously. The most common complication found was torsion or strangulation of the pedicle. In addition, there may be cystic degeneration, malignant change in the ovary, salphingitis, and tubal ectopic pregnancy [3]. The treatment of inguinal ectopia of the ovary is surgical. Early surgical intervention with replacement of the organ is the best plan of treatment [3]. Where torsion or strangulation have occurred, however, excision should be performed [4].

Only isolated case reports have appeared in the world literature since then. Kotowski [5] reported a case in 1974, which was not associated with abnormal genital tract development. Bradshaw and Carr [1] reported a case with primary amenorrhea 46 XX karyotype, mullerian agenesis and an inguinal hernia consisting of an ovary and a fallopian tube. Vaughn and Jones [6] reported a case of laparoscopic repair of bilateral inguinal hernia with returning of ovaries to the abdomen in a patient with mullerian agenesis and 46 XX karyotype. Elliott et al [7] reported a case of a woman with normal number of chromostomes (46 XX) and presence of a uterus, fallopian tube and ovary in an inguinal hernia associated with a unicornuate uterus.

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