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Research Article

# UNILATERAL AGENESIS OF FALLOPIAN TUBE AND OVARY- CASE SERIES

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**A R T I C L E I N F O**

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**A B S T R A C T**

Congenital abnormalities of the female genital tract (abnormalities of the mullerian duct) are estimated to occur in one of 500-2000 women, most commonly manifesting as various types of uterine anomalies. Partial or complete agenesis of the fallopian tube and/or ovary is rare, true incidence of which is unknown. Among the congenital abnormalities of the female genital tract, malformations occur in 3-4 % of infertile women. We present 3 cases of unilateral agenesis of fallopian tube and/or ovary diagnosed during infertility work up. Case 1 had a unilateral partial tubal agenesis with normal ipsilateral ovary and a normal contralateral ovary and tube. Case 2 had unicornuate uterus with a rudimentary tub on one side and the other tube and ovary being normal. Case 3 showed absence of ipsilateral fallopian tube and ovary.

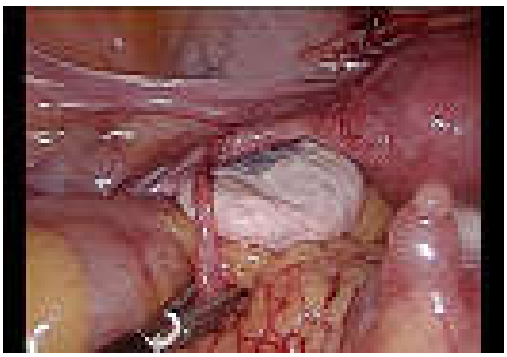


## INTRODUCTION

Congenital abnormalities of the female genital tract (abnormalities of the mullerian duct) are estimated to occur in one of 500-2000 women, most commonly manifesting as various types of uterine anomalies. Partial or complete agenesis of the fallopian tube and/or ovary is rare, true incidence of which is unknown. Etiologies of ipsilateral ovarian and/or tubal agenesis remain unclear; however, a number of studies have conducted research into this area[1-3]. Alternatively, the absence of these organs may be congenital, associated with developmental alterations of the mesonephric and paramesonephric ducts. Unilateral absence of the adnexa without a uterine deformity is rarely reported. Majority of the patients are asymptomatic and can be diagnosed incidentally following a laparoscopy or laparotomy for various gynecological or obstetric complications. They are usually asymptomatic and typically discovered by diagnostic laparoscopy during workup for infertility

### *Case 1*

A 21 year old nulligravida married for 4 months, obese, hypothyroid on treatment presented with history of irregular menstrual cycles. She had no remarkable family history or any past pelvic surgeries. Pelvic examination revealed normal sized uterus with a grossly normal cervix. On ultrasound, uterus was normal in size with endometrial thickness of 6.5mm, bilateral ovaries PCOS and right sided paraovarian cyst of 4 cm. Laparoscopy revealed – a normal uterus, bilateral ovaries and right tube. Only medial 1.5 cm of left tube was visualized and it was attached to omentum. Fimbrial part was not visualized. Right sided paraovarian cyst of 4 cm was seen and paraovarian cystectomy was done and. Chromopertubation was done. Right tube was found to be patent whereas there was no fill or spill seen from the left tube.



### *Case 2*

A 26 year old, married for 4 years, known PCOS presented with history of subfertility. Her menstrual cycles were irregular. Ultrasound revealed a normal sized uterus and normal ovaries. As a part of fertility evaluation she underwent a hysterosalpingography which revealed unicornuate uterus with left tubal block and a patent right tube. Diagnostic laparoscopy revealed unicornuate uterus with normal right tube and ovary. Left fallopian tube was rudimentary and left ovary was normal. A corpus luteal cyst was seen in the left ovary. Diagnostic hysteroscopy revealed an endometrial cavity which was deviated to the right side. Cavity appeared adequate size. Right ostia was visualized whereas left ostia could not be visualized. Endocervical canal was normal. On

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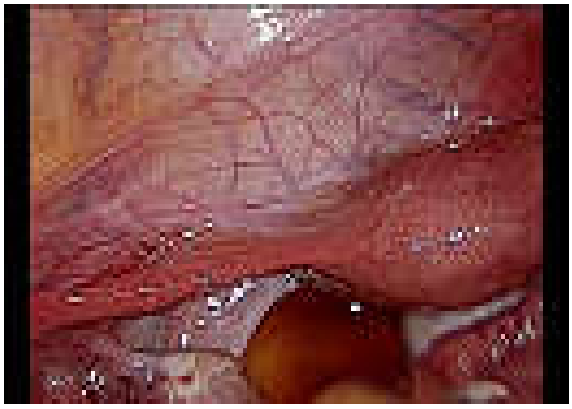
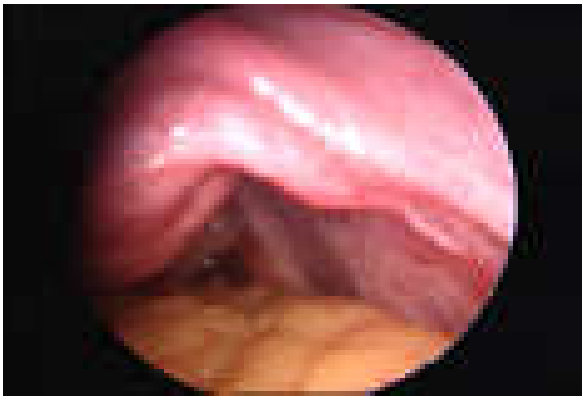
chromopertubation, right tube was patent whereas left tube was not patent. She underwent IVF with a single blastocyst transfer frozen embryo transfer and conceived. She delivered healthy live male baby by LSCS.



***Case 3***

A 31 year old, married for 5 years, secondary subfertility had no remarkable family history or any past pelvic surgeries. Pelvic examination revealed normal sized uterus with a normal cervix. On ultrasound uterus was normal in size, left ovary was normal and right ovary was not visualised. Hysterosalpingography revealed patent left fallopian tube and right tubal block. She underwent 8 cycles of ovulation induction and 2 cycles of IUI. On diagnostic laparoscopy, uterus appeared normal, left ovary and fallopian tube were normal. Right ovary was not visualized and right tube was partially absent. Chromopertubation was done. There was no fill and spill on the right side however left tube was found to be patent. On hysteroscopy uterine cavity appeared normal, bilateralostia where deep seated and stenosed. Patient conceived with IVF treatment and delivered twins.



## DISCUSSION

Among the congenital abnormalities of the female genital tract, malformations occur in 3-4 % of infertile women. Congenital fallopian tube abnormalities include long mesosalpinx, long ovarian pedicles, ovarian accessory ostia, multiple lumina, duplication, complete absence or segmental deletion of different parts of the tube. Physiological abnormalities include abnormal peristalsis of the tube, hemodynamic abnormalities such as venous congestion of the tube, sudden body position changes, trauma, surgery, or disease(PID, Tubal ligation), and pregnant uterus. Structural abnormalities of the fallopian tube are rare. Eustace[1] and Paternoster *et al*[2]reported that the absence of one or both tubes and ovaries along with a normal uterus is a very rare finding. There are two possible etiopathogenic causes. The first is an asymptomatic torsion of one or both adnexa during adult life or childhood or even in the fetal stage. The second cause may be that the absence is congenital due to a defect localized to a region in the genital ridge and the caudal part of the mullerian duct.

Adnexal torsion (tube or ovary) can lead to avascular necrosis, separation of the tissues and resorption. Adnexal torsion can occur during adulthood, especially during pregnancy, or even in childhood or in utero. Such torsion is most likely to present with acute abdominal pain, nausea and vomiting if it occurs in childhood or adulthood. Jameison and Soboleski[3] and Goktolga *et al*[4] reported adnexal torsion in prepuberty. Yalcin *et al*[5] also noticed symptomatic tubal torsion during pregnancy. However it could also be asymptomatic if has occured in fetal life as in a case reported by Sivanesaratnam[6] and Dueck *et al*[7]. Asymptomatic or minimally symptomatic torsion may be followed by auto-amputation and resorption of the fallopian tube. The mechanism of torsion is not known exactly. They can occur repetitively due to some anatomic and physiologic anomalies. The reported frequency of recurrent attacks of pain interspersed with asymptomatic intervals ranges from 10-50% in the literature[8].

The unilateral congenital absence of the fallopian tube may originate from a defect of the caudal end of the Mullerian duct and the genital ridge or developmental defect of the whole mullerian and mesonephric duct system on one side[9]. Absence of the fallopian tube may arise from canalization failure of the Mullerian duct that can also lead to unicornuate uterus. Segmental atresia could occur unilaterally or bilaterally. The unilateral absence of a fallopian tube, in conjunction with a normal contralateral tube and uterus may have less influence on infertility. Partial unilateral paramesonephric duct defects result in failure of development of varying amounts of the fallopian tube. Inadequate blood supply to the caudal part of the paramesonephric duct during development may result in failure of fallopian tube formation.

Unilateral ovarian Agenesis (UOA) is a very rare condition and can coexist with total or partial absence of the ipsilateral fallopian tube. This condition potentially coexists with malformations of the uterus and/or urinary tract, such as unicornuate uterus, unilateral renal agenesis, and other variations. The first published case of UOA was reported by Dannreuther in 1923. In his case presentation, UOA was associated with absence of the left broad ligament, round ligament, salpinx, kidney, and ureter and the presence of a unicornuate uterus. Mylonas *et al*[10]reported three such cases and reviewed the literature, which contained a total of 13 cases of UOA and/or fallopian tube absence. Demir *et al*[11]reported incidental UOA and unicornuate uterus during a cesarean section. Duelholm and Praest[12] observed that the etiologies of the development of ovarian and tubal torsion are multiple. These are anatomic abnormalities (long mesosalpinx, long ovarian pedicles, tubal abnormalities), physiological abnormalities (abnormal peristalsis of the tube), hemodynamic abnormalities (venous congestion of the mesosalpinx), sudden body position changes, trauma, surgery or disease (tubal ligation, pelvic inflammatory disease), and pregnancy uterus.

A number of previous cases have demonstrated that unilateral ovarian absence coexists with teratomas on the great omentum or the uterine surface. The authors analyzed the torsion of the

ovarian tumors that ruptured and parasitized on the greater omentum, and it was hypothesized that the incidence may be associated with embryonic developmental abnormalities. While this torsion hypothesis appears plausible, there is no evidence of its occurrence in the present case report. The patient had no history of unexplained abdominal pain, and during laparoscopic surgery, no ectopic tissues or remnant structures on the peritoneal or omental surfaces were observed. However, the absence of symptoms does not exclude the possibility of torsion antenatally.

## CONCLUSION

Most fallopian tube abnormalities are diagnosed during infertility work up. Unilateral fallopian tube and or ovarian agenesis could have some influence on the fertility of the patient. In infertility investigations, tubal patency is examined, but tubal function is not tested. As we cannot test the function of the tubes, according to these findings it could be possible that the unilateral congenital tubal and ovarian anomalies negatively affect the function of the other tube or the pelvic microenvironment even though anatomically the contralateral tube is normal. The congenital ovarian and tubal agenesis in our cases probably could have contributed to the patients' infertility.

## References


1. Eustace DL. Congenital absence of fallopian tuba and ovary. Eur J ObstetgynecolReprod Biol 1992;46:157–9.
2. Paternoster DM, Costantini W, Uglietti A, Vasile C, Bocconi L. Congenital or torsion-induced absence of Fallopian tubes. Two case reports. MinervaGinecol 1998;50:191–4.
3. Jamieson MA, Soboleski D. _Isolated tubal torsion at menarche-a case report. J Pediat Adoles Gynecol 2000; 13: 93–4.
4. Goktolga U, Cethan T, Ozturk H, *et al*. Isolated torsion of fallopian tube in a premenarcheal 12-year-old girl. J ObstetGynecol Res 2007;33: 215–7.
5. Yalcin OT, Hassa H, Zeytinoglu S, Isıksoy S. Isolated torsion of fallopian tube during pregnancy: report of two cases. Eur J ObstetGynecolReprod Biol 1997;74:179–82.
6. Sivanesaratnam V. Unexplained unilateral absence of ovary and fallopian tube. Eur J ObstetGynecolReprod Med 1986;22:103–5.
7. Dueck A, Poenaru D, Jamieson MA, Kamal IK. Unilateral ovarian agenesis and fallopian tube maldescent. Pediatr Surg Int 2001;17:228–9.
8. Varras M, Akrivis C, Demou A, Antoniou N. Asynchronous bilateral adnexal torsion in a 13-year-old adolescent: our experience of a rare case with review of the literature. J Adolesc Health 2005;37:244–7.
9. Dare FO, Makinde OO, Makinde ON, Odutayo R. Congenital absence of an ovary in a Nigerian woman. Int J GynecolObstet 1989;29:377–8.
10. Mylonas I *et al* (2003) Unilateral ovarian agenesis: report of three cases and review of the literature. Arch GynecolObstet 268(1):57–60
11. Demir B *et al* (2007) An incidental finding of unicornuate uterus with unilateral ovarian agenesis during cesarean delivery. Arch GynecolObstet 276(1):91–93
12. Duelholm M, Praest J. Isolated torsion of the normal fallopian tube. Acta ObstetGynecolScand 1987;66:89–90.



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