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Accessory fallopian tube: An extremely uncommon anomaly

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Abstract

Accessory fallopian tube is an uncommon congenital and developmental anomaly of the mullerian duct ^[1]. The documented incidence among women seeking infertility treatment ranges between 6 and 10% ^[2]. A patient's accessory fallopian tube was discovered during a routine examination of the operative field, ovaries, and fallopian tube during a caesarean section. The accessory fallopian tube is a congenital anomaly that is connected to the ampullary portion of the primary fallopian tube. It is common for pyosalpinx, hydrosalpinx, cystic enlargement, and torsion to occur in the accessory fallopian tube, which can result in infertility and other complications. The ovum discharged by the ovary may also be captured by the accessory fallopian tube, resulting in infertility or ectopic pregnancy. During embryological development of the female urogenital system, the fallopian tube develops from the unfused cranial portion of the mullerian ducts. This duct is derived from embryonic mesoderm, the intermediate layer of germ cells. The accessory fallopian tube is produced by the bifurcation of the cranial end of the mullerian duct.

Keywords: Fallopian tube, extremely uncommon anomaly, mullerian duct

1. Introduction

The paired paramesonephric (Müllerian) ducts derive from the coelomic epithelium (mesoderm) of the posterior abdominal wall during the 5th–6th weeks of gestation. The cranial portions of the ducts become precursors of the FT, and the caudal portions grow caudally and medially to reach the pelvis and urogenital sinus, where they fuse to form the uterus (Figure 1). The cranial end of the FT is fimbriated and open to the coelomic cavity, allowing communication between the peritoneum and FT. The caudal end maintains communication with the uterine cornua. The uterine tubes (Or fallopian tubes) are muscular 'J-shaped' tubes, found in the female reproductive tract. They lie in the upper border of the broad ligament, extending laterally from the uterus, opening into the abdominal cavity, near the ovaries. Fallopian tube is 10-12 cm long in size. The main function of fallopian tube is to transport ovum from ovary to uterus and fertilization. The accessory fallopian tube sometimes pick up the ovum, which can lead to ectopic pregnancy. Accessory fallopian tube also plays an important role in infertility. Hence, all patients of infertility or PID should be screened for accessory fallopian tube. And if found, it should be removed.

2. Case Report

We found duplication of fallopian tube on right side in a 28-year old female patient. She underwent an emergency caesarean section (Figure 2). We found it during routine checking of operative field, ovaries and fallopian tube. We found a small tubular structure arising from the ampullary part of main fallopian tube, around 3-4 cm (Figure 3). The lateral end showed presence of fimbria similar to main fallopian tube, and the other end is obliterated. It was unilateral and contralateral tube was normal (Figure 4). We performed surgical excision of accessory fallopian tube and sent it to laboratory for histopathological evaluation. In this case, both ovaries and uterus were normal. No any other anomalies found. Histopathological examination confirmed accessory fallopian tube with presence of lumen.

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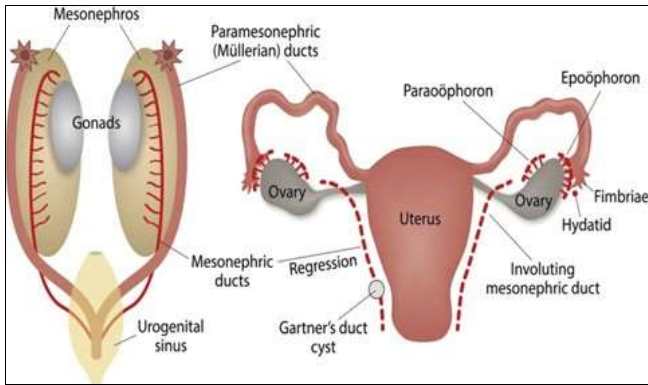


Fig 1: Embryologic morphology of fallopian tube



Fig 2: Unilateral accessory tube



Fig 3: Accessory fallopian tube at CS



Fig 4: Accessory tube arising from ampullary part

3. Discussion

The incidence of accessory fallopian tube was first described by Krossman *et al.* in 1894 [3]. It's incidence is about 5%. Based on the distance from the fimbria, they are termed terminal (<1 cm) and ampullary (>1 cm). The distance does not make any

difference in the presentations usually

Appearance may be stem-like, single or multiple, mostly extending from the ampulla of main fallopian tube and about 1-3 cm in length, may be unilateral or bilateral with umbrella shaped end. It is generally not connected with lumen of normal fallopian tube and has blind end attachment. Beyth and Kopolovic have postulated that the coelomic epithelium, which invaginates into the müllerian duct to form the ostia, is surrounded by one or many secondary invaginations. If they do not reach till the lumen, they persist as accessory tubes [5]. Most of the patients with this anomaly are usually asymptomatic and are diagnosed incidentally on laparoscopy or laparotomy for some unrelated purpose. In our case, it was diagnosed during routine operative field checking of tubes and ovaries at caesarean section.

These accessory fallopian tubes contribute to infertility and ectopic pregnancy as fimbria are capable of capturing ova even if they are not in their normal anatomical position and occlusion of segment of the fallopian tube also does not interfere with fimbrial ovum pickup function. This may cause decreased chance of intrauterine pregnancy in case of accessory fallopian tube. Hence, all patients of infertility should be screened for accessory fallopian tube and if found should be removed to prevent emergency and life threatening conditions. Transperitoneal migration of sperm through normal fallopian tube may migrate to fimbria of accessory tube and fertilize ovum captured by it, causing ectopic pregnancy. Medico-legal issue is another aspect as it may cause potential failure of postpartum sterilization procedure [6]. Previous many studies suggest about such complications associated with accessory fallopian tube like, pyosalpinx, hydrosalpinx, cystic swelling, infertility, torsion and ectopic pregnancy. Torsion of accessory Right fallopian tube is more common than left, because the left tube is fixed in the left hemipelvis by sigmoid colon and mesentery [7]. Ectopic pregnancy in accessory tube can lead to massive haemorrhage, and immediate surgical intervention is must [8]. This anomaly may be associated with other müllerian duct anomalies and renal malformations like agenesis, ectopia, hypoplasia, fusion, malrotation, and duplication [9]. In our case no such abnormalities were found. Early identification by pelvic ultrasound, hysterosalpingography or laparoscopy and it's preventive removal microsurgically followed by histopathological confirmation should be considered to avoid any dangerous consequences [6, 10]. Visualization of the tubes by laparoscopy or laparotomy is the only confirmatory modality.

Surgical management is with resection of the accessory stump after putting purse string sutures at the base or using energy sources by electrocoagulation of tubal stump. However, this should be performed after a thorough discussion about the pros and cons of the issue with the parents. Because this excision may itself predispose to adhesions or tubal blockade. Hence, maximum care should be taken while handling the tube

4. Conclusion

Because of the rarity of this congenital variation, low suspicion index for its existence, and diagnostic subtleties associated with the condition, the diagnosis of accessory tube is often missed and cases under-reported. Nevertheless, this entity should always be kept in mind especially while dealing with the infertility cases. A high index of suspicion and meticulous systematic examination of the fallopian tubes during abdominal surgeries is important for its early recognition and to prevent many gynecological complications. Preventive removal of such findings should be considered but weighed against its possible surgical complications like adhesions.

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