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Case Report

A rare case of double lumen in the fallopian tube

Preeti Jain, Imtisangla Jamir*, Arsala Mulla, Sonal Nayak

Department of Pathology, Bharatratna Dr Babasaheb Ambedkar Municipal Hospital, Mumbai, Maharashtra, India

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***Correspondence:**
Dr. Imtisangla Jamir,
E-mail: imtisangjamir@gmail.com

ABSTRACT

Mullerian duct anomaly is seldom reported in the literature. Isolated congenital anomalies of the fallopian tubes are uncommon and are often overlooked due to the limited data available about this entity. Various other anatomical variations to mention are accessory tubes, sacculations and atresia or segmental deletion of different regions of the tube. The double lumen fallopian tube was observed in a 45-year-old female admitted for complain of menorrhagia for one year. The patient had undergone hysterectomy with right tubal ligation and specimen was send for histopathology section. Histopathological examination revealed double lumen in right fallopian tube. Due to the limited data available and lack of awareness about this entity, it is often overlooked. This report presents a rare anatomical variation in the form of double lumen fallopian tube on the right side.

Keywords: Double lumen, Fallopian tube anomalies, Maldevelopment, Mullerian anomalies, Anatomical

INTRODUCTION

The fallopian tube is 10-12 cm in length, extends from the ovaries to the uterus and has four parts from medial to lateral side: Intramural, isthmic, ampullary and fimbrial. Its main function is to transfer the ovum from ovaries.[1] The fallopian tube develops from the mullerian ducts along with the uterus, cervix and upper two-thirds of vagina during embryogenesis.[2]

The fallopian tubes are the parts of the female reproductive system that are produced from the mullerian ducts along with the uterus, cervix, and some parts of the vagina during embryogenesis. Hence, mullerian duct anomalies may be present with reproduction and other systemic manifestations.[3] Mullerian duct anomalies are commonly reported in literatures, but isolated fallopian tube anomalies are uncommon and have been seldom documented in the research studies.[4] Thus, given the rarity, we present an extremely rare case of clinically unsuspected in 45-year-old multigravida women presenting with heavy menstrual bleeding with findings of double lumen fallopian tube, ultrasound scan revealing fibroid. An incidental diagnosis on the tissue sends for histopathology processing.

CASE REPORT

Authors present a case of unilateral double lumen fallopian tube incidental detection in a 45-year-old female with G4P4. She presented to the gynecological outpatient department with complain of menorrhagia. She has four healthy children all through normal vaginal delivery. Her past medical history for any major disease or prior surgeries as well as family history were non- contributory. On general physical examination, she was thin built and anaemic.

Per abdomen examination revealed slight distention and mild tenderness in the lower abdomen with no evidence of ascites or any organomegaly. Per speculum examination showed a healthy vulva, vagina and urethra. All other systemic examinations were within the normal limits. Her routine haematological investigations revealed microcytic hypochromic blood picture. Urine and blood cultures were

negative. Routine investigations for kidney, and liver tests were within normal limit. Given her history of menorrhagia, an ultrasound scan was performed, which showed fibroid measuring 10×7×3 cm. The patient was taken up for abdominal hysterectomy and the specimen was sent for histopathological examination. Intraoperative findings were suggestive of bosselated uterus with mildly broaden right fallopian tube. Our case was an incidental finding. We received right tubal ligation tissue measuring 2×0.8×0.5 cm. On serial sectioning of the right fallopian tube double lumen was observed (Figure 1).

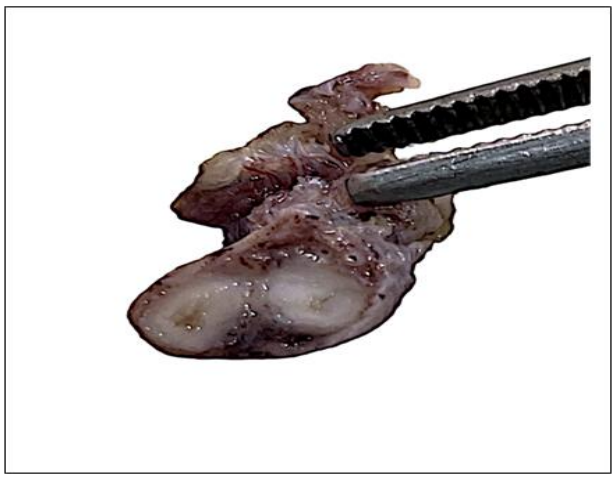

Figure 1: Double lumen on right fallopian tube was observed on gross.

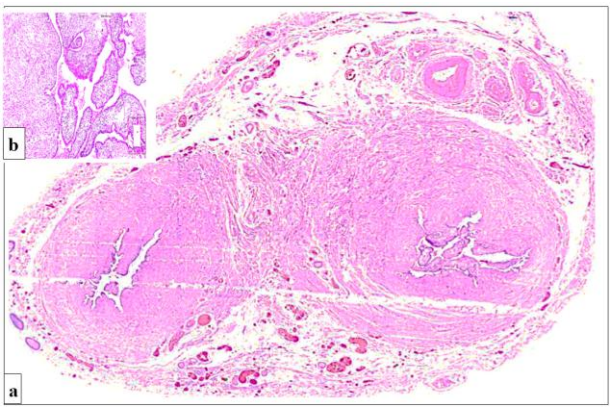

Figure 2: H&E stain of right fallopian tube shows two lumens with normal fallopian tube histology (a) 20X Fallopian tube mucosal plicae lined by simple columnar epithelium; (b) 400X.

The specimen was grossed, routine histopathological tissue processing was done and submitted for subsequent microscopic examination. On microscopy showed two separate lumens comprising of mucosa, smooth muscle wall and serosa (Figure 2a and b). Special stain Masson Trichrome was done on the tissue to confirm the diagnosis (Figure 3 a-c). Based on gross and histopathological findings, final diagnosis of right fallopian tube double lumen was made. The uterus finding on histology showed Leiomyoma. The post operative recovery of the patient was uneventful, and she was discharged home on the seventh postoperative day.

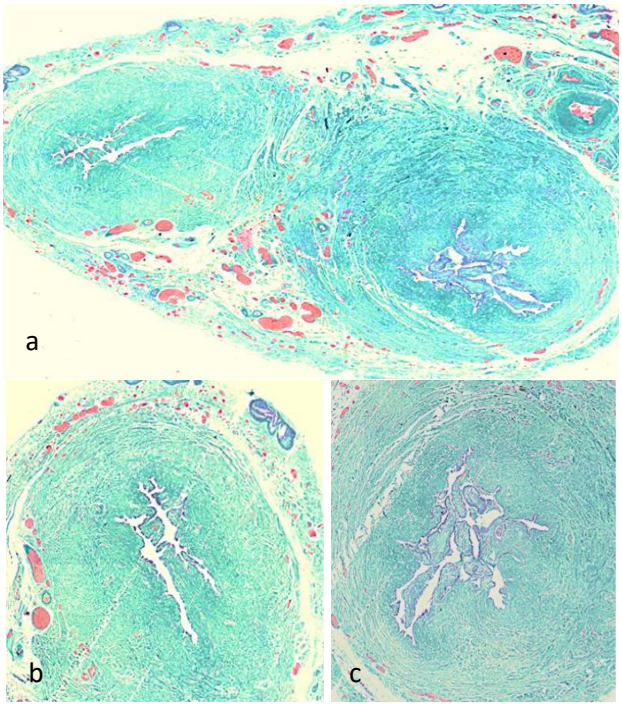

Figure 3 (a-c): Special stain masson trichrome demonstrating two lumens 20X.

DISCUSSION

Mullerian duct anomalies are commonly reported in literatures, but isolated fallopian tube anomalies are quite rare and as such the double lumen in a single fallopian tube has been seldomly reported.[5] Due to the uniqueness of such cases and limited literature available about this entity, exact incidence is unknown. The patients harboring this rare anomaly are usually asymptomatic and are diagnosed by chance on histopathological examination.[2]

We describe a rare case report of a patient who had previous four uneventful vaginal delivery and was admitted for menorrhagia. On gross, double lumen fallopian tube was observed without any accessory segment or diverticulum. Histopathological examination confirmed the incidental finding of double lumen of right fallopian tube. Special stain masson trichrome confirms collagen and smooth muscle and thus confirms two separate lumens with wall in the fallopian tube.[6,7] The left fallopian tube was not received for tissue processing hence it cannot be commented. In knowledge this is a rare case to be reported in literature.

Most of the patients harbouring this rare anomaly are usually asymptomatic and are diagnosed incidentally on laparoscopy for some unrelated purpose. The present case was also discovered by chance on histopathological examination. Due the sporadicity of such cases and limited

data available about this entity, additional studies of similar cases of large series can help us to find the exact cause.[8] An old report published by Metcalf et al in 1918, reported a case of double lumen in a single fallopian tube, which was suspected to be tuberculous. But later tests showed a non-tuberculous fallopian tube. Some studies reported that the double lumen may be due to diverticulum and the exact mechanism of the double nature of the tube was not clearly explained by him.[9,10]

The first case report was published by Ranjan et al in 2021 with similar finding of double lumen in right fallopian tube.[2]

CONCLUSION

Double lumen in fallopian tube is a rare anomaly which can be missed often because of its low suspicion index. Routine histopathological examination helps to detect these cases. Studies of large series of similar cases can help to find the cause and exact mechanism of double lumen in fallopian tube.

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