ISSN: 2581 – 3633
PubMed - National Library of Medicine - ID: 101745081

International Journal of Medical Science and Advanced Clinical Research (IJMACR)

Available Online at:www.ijmacr.com

Volume – 4, Issue – 6, November – December - 2021, Page No. : 249 – 251

Double Lumen in Fallopian Tube: A Rare Incidental Finding

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How to citation this article: Dr. Manish Ranjan, Dr. Kamlesh, Dr. Akhil Nadesan, "Double Lumen in Fallopian Tube: A Rare Incidental Finding", IJMACR- November – December - 2021, Vol – 4, Issue - 6, P. No. 249 – 251.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Mullerian duct anomalies may associate with infertility and ectopic pregnancy. Anatomical maldevelopment of isolated fallopian tube is infrequent. A 32-year-old female admitted for lower segment cesarian section (LSCS). Her bilateral tubal ligation was done and sends to histopathology section for confirmation which revealed unilateral double lumen. Additional studies of large series of similar cases can help us to find the exact mechanism and cause of double lumen in fallopian tube.

Keywords:Mullerian duct anomalies, infertility, double lumen, anatomical, maldevelopment, LSCS

Introduction

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. Most of these patients are brought to notice during the work-up of infertility or ectopic pregnancy.[1] Therefore, mullerian duct anomalies are not uncommon, but isolated anatomical maldevelopment of the fallopian tube is rare.[2]

Herein, we present a unique and rare case of unilateral lumen duplication of the fallopian tube, an incidental finding diagnosed on the tissue sent for tubal ligation confirmation.

Case report

A 32-year-old female G3P2L2, admitted to the OBG department for elective LSCS with bilateral tubal ligation. She has two healthy children, and this was her third pregnancy. She has no previous history of abortion, ectopic or stillbirth. There was no history of intrauterine contraceptive device, pelvic inflammatory disease or systemic disease. Her pelvic examination showed breech presentation. Routine investigations for hematogy, kidney, and liver tests were within normal limit. Ultrasonography of uterus showed normal baby. She had LSCS with Bilateral tubal ligation done by modified pomrey's method and the tubal tissue was sent for histopathological confirmation. On gross, right tubal

tissue was 1.4x0.8cm and left tube segment was measuring 1.2x0.2cm. Cut section of the both fallopian tubes showed patent lumen. Study of serial microsection of the both tubal segment was done. Left fallopian tube segment shows normal histology while the right fallopian tube segment showed two complete lumens of same size comprising of mucosa with delicate frond-like plicae, smooth muscle wall, and serosa. Masson Trichrome, Van Gieson and Reticulin special stain was done on the tissue to confirm the diagnosis (figure 1). Final diagnosis of right fallopian tube lumen duplication was made. The LSCS and ligation procedure was uneventful. Patient was discharged after the postoperative follow-up.

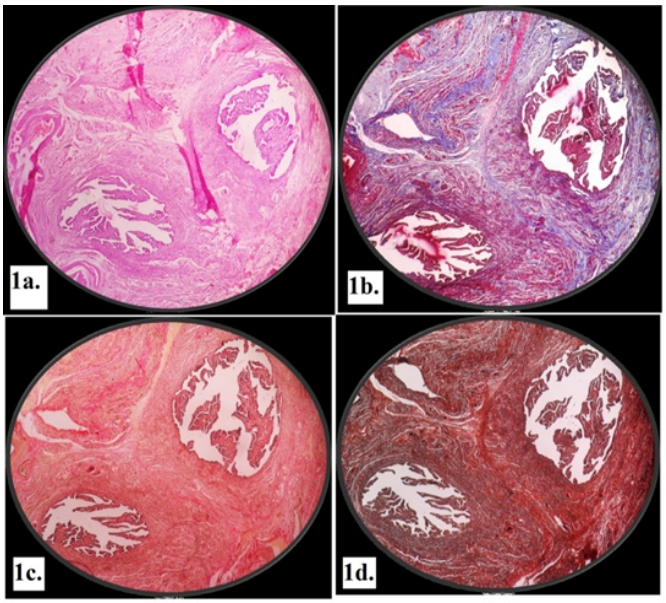

Figure1: H&E stain of right fallopian tube shows two lumens with delicate plicae separated from each other by muscular wall (1a). Special stain Masson Trichrome and Van Gieson confirms presence of smooth muscle and collagen (1b&1c). Reticulin stain absence of fibrosis (1d).

Discussion

Mullerian duct anomalies are rare and the exact incidence is not known due to the asymptotic presence of many mullerian duct anomalies. According to a study, mullerian duct anomalies prevalence in infertile females is 8%, in females with a history of miscarriage it is 12.5%, and in females with a history of miscarriage and infertility it is 24.5%.[3] Mullerian duct anomalies of the uterus and uterine tube are rare. It is frequently seen with the uterus abnormally, e.g., accessory tubes, duplication, aplasia, and hypoplasia.[4] Many studies have reported accessory fallopian tubes frequently, but the double lumen in a single fallopian tube has not been reported till now.

We have discovered one old report published by Metcalf in 1918. Metcalf et al. 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. The exact mechanism of the double nature of the tube was not explained clearly by him, and later, some studies reported that the double lumen may be due to diverticulum.[5,6]

We describe a rare case report of a patient who had previous two healthy children and was admitted for third time for elective LCSC and tubal ligation was done. On gross, accessory segment or pouch-like/diverticulum wasn't seen. Histopathological examination revealed double lumen of right fallopian tube which was an incidental finding. However, left fallopian tube had normal histology. In our knowledge we couldn't find similar case and this is the first to be reported in literature. Additional studies of large series of similar cases can help us to find the exact mechanism and cause of double lumen in fallopian tube.

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