

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20253562>

Case Report

Primary amenorrhea due to Asherman syndrome with dermoid cyst excision

Shruti R. Mishra, Dhyey R. Mishra*, Aditya S. Moruskar, Gaurav S. Desai

Department of Obstetrics and Gynaecology, Seth GS Medical College and KEM Hospital, Mumbai, Maharashtra, India

Received: 11 September 2025

Revised: 08 October 2025

Accepted: 09 October 2025

*Correspondence:

Dr. Dhyey R. Mishra,

E-mail: mbbs200142@kem.edu

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Primary amenorrhea is less common than secondary amenorrhea. It can be caused by various anatomical, genetic, or hormonal factors during the development of the reproductive organs. Congenital absence of the endometrium or sclerotic endometrium is a very rare cause of primary amenorrhea. We describe a case of sclerotic or non-functional endometrium in the context of normal female karyotype 46 XX and recurrent dermoid cyst.

Keywords: Primary amenorrhea, Asherman syndrome, Dermoid cyst, Amenorrhea

INTRODUCTION

Amenorrhea can be primary or secondary. Amenorrhea is considered to be primary in a girl who has never menstruated and secondary when there is absence of menstruation for more than three months. Primary amenorrhea is best described as the absence of menstruation by 15 years of age in the presence of normal secondary sexual characteristics, or by 13 years of age in the absence of secondary sexual characteristics.¹ Primary amenorrhea can be caused by various anatomical, genetic, or hormonal factors during the development of the reproductive organs, with an estimated incidence of 0.1–0.3%, which is much less common than that of secondary amenorrhea at 3–4%.² Sclerotic endometrium due to damage of the basal layer is a known cause of secondary amenorrhea. This may be iatrogenic, following overzealous endometrial curettage, or therapeutic, following endometrial ablation for heavy menstrual bleeding. Intrauterine adhesions and synechiae develop, leading to Asherman's syndrome, which results in amenorrhea, menstrual abnormalities, recurrent miscarriage, or infertility.^{3,4} Absent or sclerotic endometrium is not commonly considered in the evaluation of primary amenorrhea by most gynaecologists.⁵

CASE REPORT

A 30-year-old nulligravida presented to the gynaecology clinic for investigation of primary amenorrhea and infertility. She had never experienced menstrual bleeding. She denied cyclical pelvic or lower abdominal pain, lower abdominal swelling, or distension. She reported no family history of menstrual or congenital uterine abnormalities. On examination, she had a normal body habitus and body mass index (BMI), with normal secondary sexual characteristics. At speculum and bimanual examination, the vagina appeared unremarkable, and the cervix appeared healthy. The uterus was mobile and normal sized. Blood tests as described below, karyotype and pelvic ultrasound were performed and a progesterone challenge prescribed. Normal female karyotype of 46 XX was confirmed, and the hormonal profile was normal and confirmed ovulation (follicle-stimulating hormone (FSH) 11.7 IU/l, luteinizing hormone (LH) 5.65 IU/l, thyroid stimulating hormone (TSH) 3.1 mIU/l, prolactin 10.2 mIU/l, testosterone 0.9 nmol/l). Normal levels of 17-hydroxyprogesterone (3.9 nmol/l) and 21-hydroxylase enzyme (<0.4 U/ml) were also confirmed. There was no withdrawal bleeding following the progesterone challenge test. Pelvic ultrasound was uterus retroverted with endometrial thickness 2 mm and left ovarian lesion

2.9×3.5 cm with no internal vascularity and calcification suggestive of dermoid cyst. Magnetic resonance imaging (MRI) pelvis describes the uterus is normal in size and shape. It is retroverted and has a smooth contour. The cervix is normal in shape and signal intensity. The vagina is also normal in its visualized extent. A well-circumscribed heterogeneous oval lesion is noted in left adnexa not seen separately from left ovary, suggestive of fat content, showing thin peripheral enhancement. It measures approximately 1.8×2.0×1.9 cm suggestive of left ovarian dermoid. The patient was consented for examination under anaesthesia (EUA), hysterolaproscopy, dilation and curettage and dermoid cyst excision. At EUA and hysteroscopic assessment of uterine cavity, filled with multiple thick adhesions and cavity obliterated. Endometrial sampling by dilation and curettage (D&C) sent for histopathological report (HPR) and cartridge-based nucleic acid amplification test (CBNAAT). Left ovarian cyst excision done by harmonic scalpel and sample sent for HPR. Right ovary appeared normal but adherent to ovarian fossa. Adhesiolysis done by scissors and right fallopian tube and ovary freed from fossa. Rest of the operative course was uneventful. Patient had an uneventful postoperative course in the ward and was discharged (Figures 1 and 2).



Figure 1: Hysteroscopic image showing the uterine band of adhesion.



Figure 2: Intraoperative image showing left ovarian dermoid.

As her foremost concerns were surrounding her reproductive potential and options, patient started on cyclical ethinyl estradiol and medroxyprogesterone

acetate. hormonal profiles were assayed over a month and correlated with ultrasound assessment of endometrial thickness and morphology.

DISCUSSION

Uterine cavity is lined by endometrium which is divided into the functional endometrium that is shed during menses and the basal layer which is involved in regeneration of endometrium. It is believed that trauma to the basal layer during surgical procedure like dilatation and curettage or due to infection can lead to development of adhesions which could be flimsy or dense. Dense adhesions could further obliterate the uterine cavity and the cervix. The risk of developing synechiae increases with the number of check curettage.⁶ Hysteroscopy can be used for diagnosis as well as treatment of the same. Myometrial adhesions are more common. Diagnosis of the condition can be made based on the history and a high index of suspicion in a patient with menstrual complaints or infertility following history of curettage or any uterine surgery. Tests like Saline infusion sonography, hysterosalpingography or magnetic resonance imaging can be used for confirming the diagnosis.⁷ The treatment depends on the presenting complaints of the patient. Those seeking medical attention for infertility could be treated with hysteroscopic adhesiolysis followed by hormonal treatment with estrogen to stimulate endometrial growth and prevent recurrence of adhesion formation.⁸ The adhesions may also lead to obstruction of outflow tract leading to cyclical pain during menses and obstruction to menstrual flow may cause endometriosis.

CONCLUSION

Uterine synechiae are a reversible and potentially preventable cause of infertility. We describe a case of a 30-year-old woman with primary amenorrhea, normal secondary sexual characteristics, and hormonal assays confirmed an ovulatory ovarian cycle. Karyotype was normal. We conclude that the cause of primary amenorrhea is secondary to Asherman syndrome.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Klein DA, Poth MA. Amenorrhea: an approach to diagnosis and management. *Am Fam Physician*. 2013;87(11):781-8.
2. Reindollar RH. Primary amenorrhea: investigation, management, and aetiology. *Am J Obstet Gynecol*. 1999;181(4):891-905.
3. Yu D, Wong YM, Cheong Y, Xia E, Li TC. Asherman syndrome—one century later. *Fertil Steril*. 2008;89(4):759-79.

4. Practice Committee of American Society for Reproductive Medicine. Current evaluation of amenorrhea. *Fertility and sterility.* 2008;90:S219-25.
5. Li T, Liu Y, Yu Y. Endometrial factors in the pathogenesis of amenorrhea and infertility. *Reprod Biol Endocrinol.* 2019;17(1):1-10.
6. March CM. Asherman's syndrome. *Semin Reprod Med.* 2011;29(2):83-94.
7. AAGL Elevating Gynecologic Surgery. AAGL Practice Report: Practice Guidelines on Intrauterine Adhesions Developed in Collaboration With the European Society of Gynaecological Endoscopy (ESGE). *J Minim Invasive Gynecol.* 2017;24(5):695-705.
8. Zhang L, Wang M, Zhang Q, Zhao W, Yang B, Shang H, et al. Estrogen therapy before hysteroscopic adhesiolysis improves the fertility outcome in patients with intrauterine adhesions. *Arch Gynecol Obstet.* 2019;300(4):933-9.

Cite this article as: Mishra SR, Mishra DR, Moruskar AS, Desai GS. Primary amenorrhea due to Asherman syndrome with dermoid cyst excision. *Int J Reprod Contracept Obstet Gynecol* 2025;14:4041-3.