



# A case of hysteroscopic resection of retained products of conception, metroplasty, and adhesiolysis

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**Abstract:** Operative hysteroscopy is the golden standard for the treatment of uterine cavity diseases: endometrial polyp, uterine adhesions, uterine septum, submucosal myoma type 0–2, and so on. All these diseases can be diagnosed and be treated by hysteroscopic tools. For retained products of conception, dilation and suction curettage (D&C) or visualized hysteroscopic resection can be candidate, but hysteroscopic management increased surgical success and decreased postoperative formation of intrauterine adhesions (IUA) than traditional D&C. Uterine malformation increased the chance of miscarriage and embryo residue, so uterine septum incision is recommended for women with infertility or prior pregnancy loss. IUA may be caused by uterine cavity manipulation, which can lead to infertility or adverse pregnancy outcomes. Therefore, IUA requires surgical treatment for those women with fertility needs or clinical symptoms. Our video shows a case combined retained products of conception, uterine septum, with adhesions at the same time, all the problems need to be resolved all at once. So the patient has been treated by hysteroscopy and been performed resection of retained products of conception, metroplasty, and adhesiolysis in one surgery procedure, anti-adhesion methods as an intrauterine device (IUD) was used to prevent re-adhesion. Follow-up by diagnostic hysteroscopy 3 months after surgery found that her uterine cavity recovered completely normal, both tubal ostiums were visible. Our video shows a variety of complicated cavity diseases can be treated properly by hysteroscopy, and a good result can be achieved.

**Keywords:** Hysteroscopy; uterine septum; adhesiolysis; uterus metroplasty; retained products of conception (RPOC); case report

Received: 16 December 2020; Accepted: 02 February 2021; Published: 25 June 2021.

doi: 10.21037/gpm-20-71

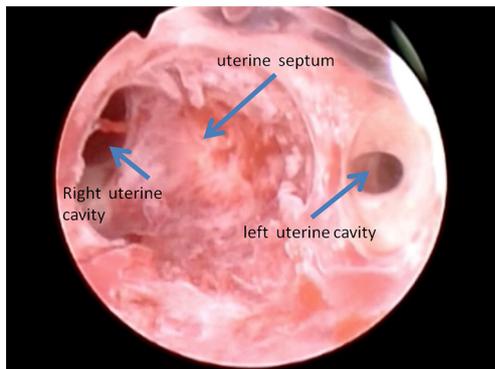
View this article at: <http://dx.doi.org/10.21037/gpm-20-71>

## Introduction (Video 1)

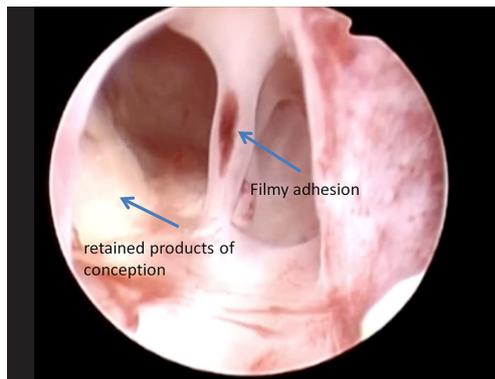
One 23-year-old woman underwent her first-time induced abortion 50 days before because of missed abortion, complaint that no menstruation appears. She has an irregular menstrual cycle from 30 to 180 days and had been diagnosed with polycystic ovary syndrome (PCOS) for 3 months. 3D ultrasound results revealed that her uterus presented partial septum (depth from the interstitial line to the apex of the indentation 1.4 cm), and there was a 16 mm

× 7 mm local retained product of conception in her right uterus. Her serum beta human chorionic gonadotropin ( $\beta$ -HCG) was 8.02 IU/L (reference value: 0–5 IU/L for no pregnant). After pretreatment with mifepristone and estrogen for 6 days, her serum  $\beta$ -HCG dropped to 5.77 IU/L. So her preoperative diagnoses were: (I) retained products of conception; (II) partial uterine septum. During the operation, we found she combined with adhesion at the same time. In the same patient, one or two diseases are common, but it is rare to have three diseases at the

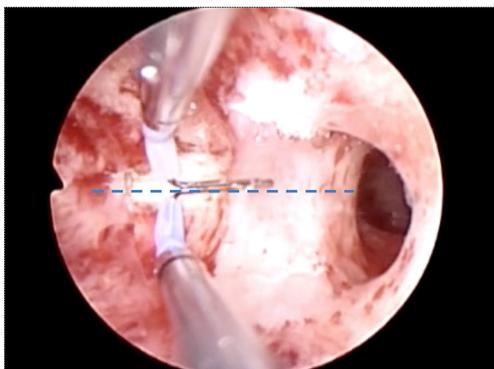
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**Figure 1** Inspection of the whole uterine cavity.



**Figure 2** Right uterine cavity with retained products of conception and filmy adhesion.



**Figure 3** Bipolar electric needle resects uterine septum by horizon with the line of both side of tubal ostiums.

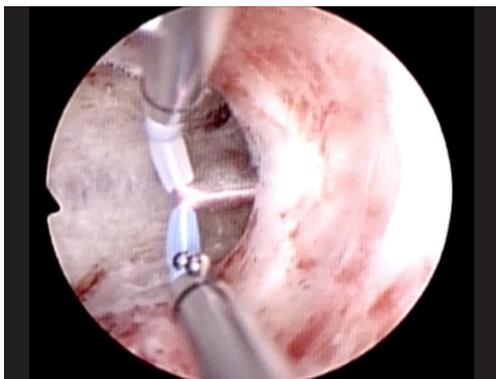
same time, and it is more difficult to treat various diseases successfully at the same time. So we completely removed the retained products of conception and performed metroplasty, adhesiolysis successfully in one hysteroscopic process. Finally, she was diagnosed with: (I) retained products of conception; (II) partial uterine septum; (III) uterine adhesion. Three months after surgery, diagnostic hysteroscopy findings indicated that her uterine cavity was normal, both tubal ostiums were visible.

We present the following article in accordance with the CARE reporting checklist (available at <https://gpm.amegroups.com/article/view/10.21037/gpm-20-71/rc>).

### Operative techniques

The patient was routinely given a laryngeal mask anesthesia and lithotomy position, bipolar hysteroscopy was used for resection, with 2D ultrasound supervising the entire operation process. Saline was used as a distension medium with dilatation pressure of 100–120 mmHg. Before the hysteroscopic resection, the entire uterine cavity has been carefully inspected, uterine cavity morphology, bilateral tubal ostiums, and endometrial thickness were also be carefully evaluated (*Figure 1*). For this patient, moderate IUA has been diagnosed except septum and retained products. So our hysteroscopic procedures were as follows: (I) retained products were directly visualized and precisely removed, a bipolar electronic loop was used as a cold loop to clear retained products to protect the surrounding normal endometrium (*Figure 2*). (II) A bipolar needle was used for uterine septum incision, and transabdominal ultrasound has been used concurrently to confirm uterine contour and assesses complete removal of the septum (*Figure 3*) (1). In the operation of hysteroscopic adhesiolysis, bipolar electric needle resects bilateral wall adhesions by horizon with ipsilateral tubal ostium, until the uterine cavity was restored and bilateral tubal ostiums can be observed (*Figure 4*).

All procedures performed in studies involving human participants were in accordance with the Helsinki Declaration (as revised in 2013). Informed consent was obtained from the patient for publication of this manuscript and any accompanying images.



**Figure 4** Bipolar electric needle resects left wall adhesions by horizon with left tubal ostium.

### Comments

Septate uterus has been reported that it will increase the risk of miscarriage, or poor obstetrical outcomes (e.g., premature delivery, or malpresentation) (2). Hysteroscopic resection of the septate uterus is standardly being performed in women of reproductive age and wish to conceive (3). For this patient, uterine septum caused her missed abortion and increased the risk of pregnancy residue, nonvisual curettage laded to uterine adhesion. So it is necessary for her to use hysteroscopic procedures to resolve all these problems. Though there are various options to choose: cold scissors, unipolar, bipolar cautery, or laser (1). There still is insufficient evidence to recommend one over the other. During the surgery, the “cold loop” technique was applied to bipolar resectoscope to decrease the chance of post-surgical adhesion. According to the American Association of Gynecologic Laparoscopists (AAGL)/European Society of Gynaecological Endoscopy (ESGE) guideline, we used an intrauterine device (IUD) and sequential estrogen and progesterin three cycles to prevent re-adhesion (4).

### Acknowledgments

The video was awarded the second prize in the Second International Elite Gynecologic Surgery Competition (2020 Masters of Gynecologic Surgery).

*Funding:* None.

### Footnote

*Provenance and Peer Review:* This article was commissioned by the editorial office, *Gynecology and Pelvic Medicine* for

the series “Award-Winning Videos from the Second International Elite Gynecologic Surgery Competition (2020 Masters of Gynecologic Surgery)”. The article has undergone external peer review.

*Reporting Checklist:* The author has completed the CARE reporting checklist. Available at <https://gpm.amegroups.com/article/view/10.21037/gpm-20-71/rc>

*Conflicts of Interest:* The author has completed the ICMJE uniform disclosure form (available at <https://gpm.amegroups.com/article/view/10.21037/gpm-20-71/coif>). The series “Award-Winning Videos from the Second International Elite Gynecologic Surgery Competition (2020 Masters of Gynecologic Surgery)” was commissioned by the editorial office without any funding or sponsorship. The author has no other conflicts of interest to declare.

*Ethical Statement:* The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in studies involving human participants were in accordance with the Helsinki Declaration (as revised in 2013). Informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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doi: 10.21037/gpm-20-71

**Cite this article as:** Li C. A case of hysteroscopic resection of retained products of conception, metroplasty, and adhesiolysis. *Gynecol Pelvic Med* 2021;4:13.