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Pregnancy outcome after hysteroscopic synechiolysis for intrauterine synechiae (Asherman's syndrome): case report

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Summary

Introduction: Destruction of the basal endometrium layer causes intrauterine synechiae (IUS), known as Asherman's syndrome.

Case description: A 37-year-old, P2+1 woman presented with hypo-menorrhea and infertility following dilatation and curettage done for evacuation of a first trimester missed miscarriage. Postmenstrual hysterosalpingography findings were suggestive for IUS, and she was scheduled for diagnostic and operative hysteroscopies in the same setting for synechiolysis. An intrauterine Foley catheter was inserted after synechiolysis for prevention of IUS recurrence. During follow-up, the studied woman reported significant improvement, and increased her menstrual flow days and amount. Two months after stopping the hormonal replacement therapy, she presented with positive pregnancy, and was admitted to the hospital at 37 weeks + 5 days gestation, and delivered a live baby weighing 2.860 kg.

Conclusions: Hysteroscopy is the gold standard for diagnosis and treatment of IUS. The treatment of IUS associated with significant improvement in the reproductive outcome and menstrual disorders.

Key words: pregnancy, hysteroscopic, synechiolysis, synechiae, Asherman's.

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Introduction

Intrauterine synechiae (IUS), or Asherman's syndrome, was mentioned for the first time by Heinrich Fritsch in 1894, then the full characteristic picture of the syndrome was described by Joseph Asherman, in 1950 [1, 2].

The American Fertility Society (AFS) divides IUS according to the extent of the adhesions into mild (involving 1/4 of the uterine cavity), moderate (involving 1/2 of the uterine cavity), and severe (involving ≥ 3/4 of the uterine cavity) [3].

Intrauterine synechiae occurs after destruction of the basal endometrium following dilatation and curettage (D&C), medical abortion, caesarean section, myomectomy, an intrauterine contraceptive device (IUCD), and low-grade pelvic infection such as tuberculosis [4].

The risk of IUS is high after repeated D&C for retained product of conception (RPOC) or retained placenta [5, 6].

The diagnosis and treatment of IUS definitely improve the reproductive outcome and the menstrual disturbance [1]. The American Society for Reproductive Medicine (ASRM) concluded that the full-term pregnancy rate reaches 70–80% after treatment of mild to moderate IUS [7, 8].

Different imaging methods are used for the diagnosis of IUS such as hysterosalpingography (HSG) and saline infusion sonohysterography (SIS), and hysteroscopy is the gold standard method used for the diagnosis and treatment of IUS [1]. This case report represents the pregnancy outcome after hysteroscopic synechiolysis for IUS.

Case description

A 37-year-old woman, P2+1 (2 previous cesarean sections, one miscarriage), presented with hypo-menorrhea (short and scanty menstrual period), and infertility following D&C done for evacuation of a first trimester missed miscarriage 1 year ago.

Postmenstrual HSG was done as part of the routine work-up for infertility, and the HSG showed multiple irregular filling defects with sharp borders suggestive for IUS (Figure 1).

Based on the HSG findings, the woman was informed about the diagnostic hysteroscopy procedure, which may be converted to operative hysteroscopy in the same setting for synechiolysis, and the possible complications (especially uterine perforation).

Diagnostic hysteroscopy was done under general anesthesia using a 5 mm rigid hysteroscope (Olympus, KeyMed House, Stock Road, UK), after evacuation of the bladder, and dilatation of the cervix, to confirm the diagnosis of IUS [9] (Figure 2).

Operative hysteroscopy for synechiolysis was done using a 8 mm rigid operative hysteroscope (Olympus, KeyMed House, Stock Road, UK), with a 30-degree viewing angle, 300 W fibro-optic Xenon light, camera with recording facilities, and external sheath. The external sheath of the hysteroscopy was connected to a continuous inflow and outflow system, to facilitate continuous distension and irrigation of the uterine cavity. Normal saline in room temperature under 75–100 mm Hg pressure was used as distention medium during the synechiolysis procedure. Synechiolysis was done using a 3 mm electrode, with 60–100 W electrosurgical bipolar cutting current, guided by trans-abdominal ultrasound to avoid uterine perforation during the procedure [9] (Figures 3 and 4).

An intrauterine Foley catheter was inserted after synechiolysis for 3 days, with IV antibiotics for prevention of recurrence of the IUS and/or infection. The woman was discharged from the hospital after 3 days, for follow-up in the outpatient department (OPD), on cyclic HRT for 3 months.

During the follow-up of the studied woman in the OPD, the woman reported significant improvement, and increased her menstrual flow days (from 3 to 5 days) and amount. Two months after stopping the cyclic HRT, she presented with a positive pregnancy test after a missed period for ante-natal care (ANC). During the ANC, betamethasone was given to accelerate the fetal lung maturity, and magnesium sulfate for fetal neuro-protection at 28

Figure 1. Hysterosalpingography showed multiple irregular filling defects with sharp borders suggestive for intrauterine synechiae

Figure 2. Diagnostic hysteroscopy showed intrauterine synechiae

Figure 3. Hysteroscopic synechiolysis

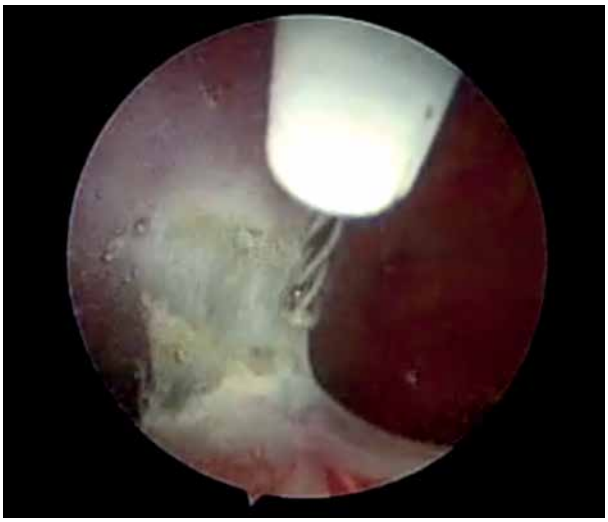

Figure 4. Hysteroscopic synechiolysis

weeks' gestation. The woman was admitted to the hospital at 37 weeks + 5 days gestation (2 days before the scheduled date for elective CS), due to PROM diagnosed by the patient's history of sudden gush and pooling of amniotic fluid, confirmed by visualization of fluid passing from the cervical canal during sterile speculum examination, and a positive AmniSure test [10–12].

The studied woman was given preoperative prophylactic antibiotics according to the hospital protocol after exclusion of urinary tract infection, sexually transmitted diseases, and group B streptococcus infection [13], and delivered by cesarean section (CS) a live baby boy, 2.860 kg, with an APGAR score of 7, 8, and 9 at 1, 5 and 10 min. The woman and the delivered baby were discharged from the hospital on the third post-operative day in good general condition for follow-up in the OPD.

Discussion

The AFS classifies IUS according to the extent of the adhesions; mild (involving 1/4 of the uterine cavity), moderate (involving 1/2 of the uterine cavity), and severe (involving ≥ 3/4 of the uterine cavity) [3].

Ahmadi *et al.* concluded that the menstrual changes, infertility and/or recurrent pregnancy loss following repeated D&C for retained products of conception (RPOC) or retained placenta or pelvic surgery are the suggestive symptoms of Asherman's syndrome [1]. In addition, the authors concluded that the risk of IUS is high after repeated D&C for RPOC or retained placenta [5, 6].

The studied woman presented with hypo-menorrhea and secondary infertility after D&C for first trimester missed miscarriage. The HSG was done for her as routine work-up for infertility, and showed multiple irregular filling defects with sharp borders suggestive for IUS.

Ahmadi *et al.* concluded that trans-vaginal ultrasound (TVS) had low sensitivity in the diagnosis of IUS, unless saline is infused during the TVS, for proper distension and visualization of the uterine cavity (SIS) [1].

In addition, Soares *et al.* concluded that HSG is the first-line diagnostic tool for IUS, because it is simple and minimally invasive with high sensitivity (75%) [14].

Because hysteroscopy is the gold standard for diagnosis and treatment of IUS [1, 15], the woman was scheduled for a diagnostic hysteroscopy procedure, which may converted to operative hysteroscopy in the same setting for synechiolysis. An intrauterine Foley catheter was inserted after synechiolysis, with IV antibiotics for prevention of recurrence of the IUS and/or infection, and the woman was discharged from the hospital on cyclic HRT for 3 months, for follow-up in the OPD.

Thomson *et al.* reported that an intra-uterine Foley catheter or IUCD insertion for 3–5 days, with post-operative antibiotics, and combined estrogen + progesterone HRT are mandatory after synechiolysis for prevention of recurrence [16].

During follow-up of the studied woman in the OPD, she reported significant improvement, and increased her menstrual flow days (from 3 to 5 days) and amount. Two months after stoppage of the cyclic HRT, the woman presented with positive pregnancy test, and delivered at 37 weeks + 5 days by CS a live baby boy, 2.860 kg.

Ahmadi *et al.* concluded that the treatment of IUS improves reproductive outcome and menstrual disorders [1]. Thomson *et al.* concluded that after synechiolysis the menstrual flow returns to normal in > 90% of women, with the pregnancy rate ranging from 50% to 60% [16], and the ASRM reported that the full-term pregnancy rate reaches 70–80% after treatment of mild to moderate IUS [7, 8].

In addition, Tuuli *et al.* concluded that uterine synechiae in pregnancy is associated with a significant increase in the risk of preterm PROM, placental abruption, and cesarean delivery for mal-presentation [17].

Conclusions

Menstrual changes, infertility and/or recurrent pregnancy loss following repeated D&C for RPOC or retained

placenta are the suggestive symptoms of IUS. The HSG is the first-line diagnostic tool for IUS, and hysteroscopy is the gold standard for diagnosis and treatment of IUS. Intra-uterine Foley catheter or IUCD insertion for 3–5 days, with post-operative antibiotics, and HRT are mandatory after synechiolysis. The treatment of IUS associated with significant improvement in the reproductive outcome and menstrual disorders.

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Conflict of interest

The authors declare no conflict of interest.

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