

Pregnancy and delivery following sonohysterographic lysis to treat recurrence after hysteroscopic lysis of severe intrauterine adhesions: a case report

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Summary

Objective: To report a patient with sterility secondary to severe intrauterine adhesions who underwent sonohysterographic (SHG) lysis for recurrent adhesions following hysteroscopic lysis, and achieved tubal patency and natural pregnancy leading to term vaginal delivery. **Design:** Case report. **Setting:** National Hospital Organization Kyoto Medical Center, Kyoto, Japan. **Patient:** A patient with hypomenorrhea and sterility due to postpartum severe intrauterine adhesions. **Interventions:** Operative hysteroscopy was performed for the severe intrauterine adhesions, and SHG lysis was performed for each of the recurrent adhesions that had occurred four times. **Results:** SHG lysis improved the hypomenorrhea and restored the patency of the occluded fallopian tube. The patient became pregnant, and vaginally delivered a full-term infant. **Conclusion:** This approach may be an option if recurrent adhesions following hysteroscopic lysis occur.

Key words: Intrauterine adhesions; Operative hysteroscopy; Pregnancy; Sonohysterography.

Introduction

Intrauterine adhesions frequently develop after intrauterine procedures, such as dilatation and curettage, postpartum management, and hysteroscopic myomec-tomy, and cause menstrual disorders such as amenorrhea or hypomenorrhea, leading to sterility or infertility [1-3]. Although different classifications have been reported, intrauterine adhesions are broadly classified into mild, moderate, and severe categories [4-6]. Severe intrauterine adhesions account for 9.3-25.1% of the total cases [6-8] and usually are treated by hysteroscopic lysis. However, even if severe adhesions are lysed, recurrent adhesions frequently occur [6, 7, 9]. In performing sonohystero-graphic (SHG) lysis, Coccia *et al.* achieved good results for mild adhesions [10]. However, few reports have examined SHG lysis of recurrent adhesions following hysteroscopic lysis of severe intrauterine adhesion. We describe a patient with severe intrauterine adhesions who underwent hysteroscopic lysis and SHG lysis of recurrent adhesions, and afterward achieved tubal patency, preg-nancy, and term delivery.

Case Report

A 37-year-old gravida 1, para 1 woman had a fever of more than 38°C, and a retained placenta after the vaginal delivery of her first child in a hospital, and underwent intrauterine curet-tage. Since that time, she had had regular but light menstrual periods (approximately one-seventh of the pre-pregnancy amount of menstrual flow), and failed to become pregnant despite her wishes to have a second child; thus, she was visited at Kyoto Medical Center. She had regular menstrual cycles and normal levels of follicle stimulating hormone, luteinizing hormone, prolactin, and estradiol. Only the left side of the uterine cavity and the left fallopian tube were visualized by hys-terosalpingography (HSG), and the patient was diagnosed with intrauterine adhesions (Figure A). On the day before surgery, a 2-mm in diameter laminaria (dried kelp stalk) was inserted into the cervical canal, and gauze was placed in the vagina. After 15 hours, they were removed under spinal anesthesia. After dilata-tion of the cervical canal with Hegar dilators, operative hys-teroscopy was performed using a resectoscope and Uromatics (d-sorbitol; Baxter, Tokyo, Japan) as distending medium. Oper-ative hysteroscopy was performed, with findings categorizing the intrauterine adhesions as severe according to the American Fertility Society Classification of Intrauterine Adhesions [4]. The adhesions were incised with a rigid resectoscope with a hook-shaped monopolar electrode, using transabdominal ultra-sonographic guidance. The uterine opening of the right fallop-ian tube could not be identified. Surgery was completed in 35 min without perioperative or postoperative complications. With the introduction of anesthesia, flomoxef sodium (Shionogi & Co., Ltd., Osaka, Japan) as a prophylactic antibiotic was admin-istered at a dose of 1 g, followed by another dose eight hours after surgery. The patient was discharged 24 hr after surgery. An intrauterine device (IUD) was inserted into the uterine cavity, and estrogen (E) and progesterone (P) therapy was administered for three months. After three withdrawal bleedings, the IUD was removed. HSG clearly visualized the entire uterine cavity

We have participated in the work take responsibility for the manuscript which has never been published or submitted for publication elsewhere.

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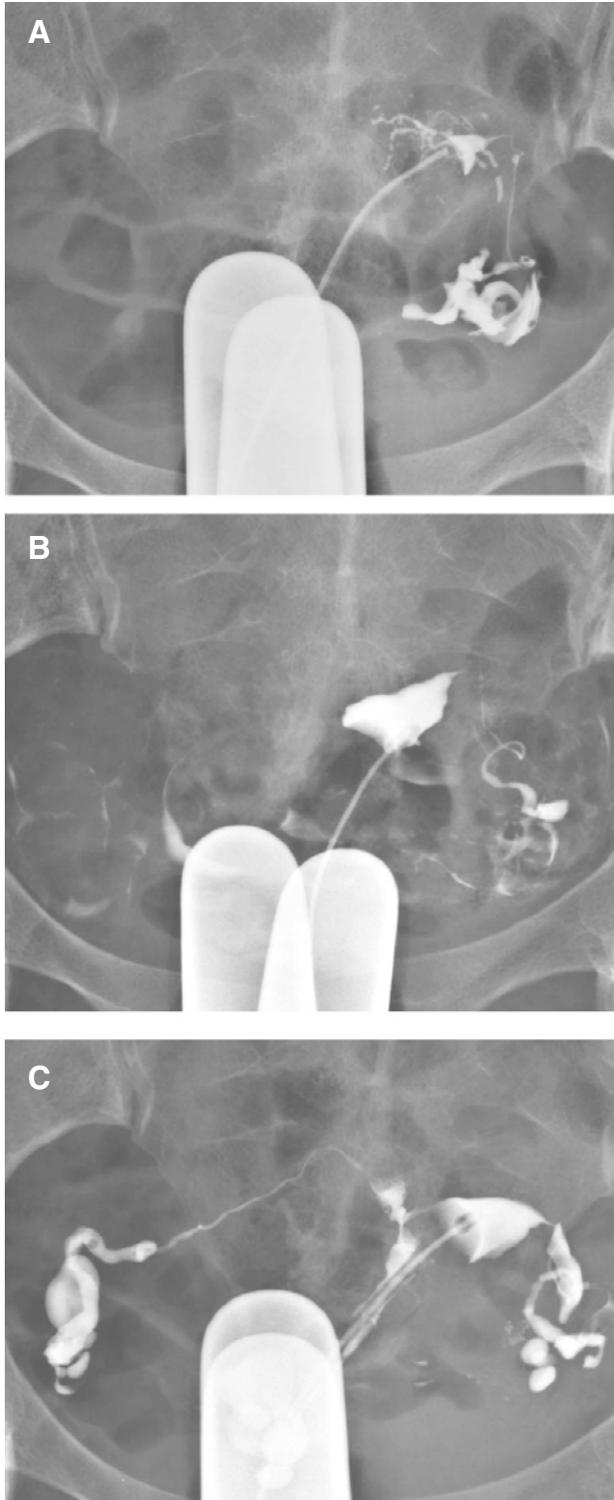


Figure (A) Preoperative hysterosalpingogram (HSG) showing patency of a small left portion of the uterine cavity and left fallopian tube. (B) HSG performed three months after surgery showing patency of the uterus and left fallopian tube. (C) HSG performed ten months after surgery showing constriction of the right portion of the uterine cavity and patency of both fallopian tubes (after one treatment with sonohysterographic lysis).

and the left fallopian tube, but failed to visualize the right fallopian tube (Figure B). The amount of menstrual flow returned to normal after E and P therapy, but then declined by half at eight months after surgery, suggesting adhesion recurrence. We explained the need for hysteroscopic confirmation of recurrence and lysis to the patient, who declined to undergo repeat surgery by hysteroscopy. Instead, SHG was performed to diagnose and treat recurrent adhesions in the outpatient clinic. After an 8-Fr uterine injector catheter (Hyscath; Sumitomo Bakelite, Tokyo, Japan) was inserted into the cervical canal, the balloon at its tip was filled with 0.5-1.0 ml of physiological saline, and fixed in an appropriate position. Without anesthesia and during transvaginal ultrasonographic monitoring, approximately 7-10 ml of physiological saline was injected into the uterine cavity, and intrauterine adhesions were confirmed [11]. The saline was aspirated, followed by lysis by two to three rapid injections of 10-12 ml of physiological saline under moderate pressure. The procedure was concluded after confirming that the uterine cavity was fully expanded. Subsequent menstrual flow volumes returned to normal, but decreased again at 10, 13 and 15 months after hysteroscopic surgery. After each decline SHG lysis was repeated with restoration of normal menstrual flow. After the second menstrual flow decrease ten months after the first hysteroscopic surgery, HSG showed adhesions in the right uterine cavity but visualized the previously occluded right fallopian tube (Figure C). The patient became pregnant naturally 18 months after surgery. The course of the pregnancy was uneventful, including vaginal delivery of a healthy infant at 37 weeks of gestation. Although placental adhesions were observed at childbirth, manual removal of the placenta was successful.

Discussion

Lysis of severe intrauterine adhesions is frequently followed by recurrent adhesions [6, 7, 9]. Patients with such recurrences often undergo hysteroscopic lysis several times after the initial lysis. Pabuccu *et al.* [7] observed recurrent adhesions in six (60%) of ten patients. Cappella-Allouc *et al.* [9] noted filmy adhesions in ten out of 31 patients developing recurrent adhesions after lysis of severe intrauterine adhesions, and reported successful hysteroscopic lysis without anesthesia on an outpatient basis, but 15 patients with mild or severe adhesions were hospitalized, and underwent hysteroscopic lysis under anesthesia: seven patients required lysis twice, seven patients three times, and one patient four times. Valle *et al.* [6] observed recurrent adhesions in 23 of 47 patients with severe intrauterine adhesions, and recurrent adhesions in seven of 20 patients who underwent lysis of recurrent adhesions. In some patients, recurrent adhesions are more severe than at the time of initial surgery. These suggested a high possibility of recurrent adhesions in patients with severe intrauterine adhesions. Our patient required SHG lysis for recurrent adhesions four times. As SHG lysis was performed promptly when menstrual volume decreased, SHG lysis may be effective when carried out before adhesions become fully established.

Some authors have reported restoration of tubal patency by initial hysteroscopic lysis of severe intrauterine adhesions [12], but such a result is very difficult to obtain. Even if the initial lysis failed to achieve tubal patency, SHG lysis after the hysteroscopic lysis restored

tubal patency in the present patient, suggesting the effectiveness of this procedure. We believe that hydrostatic pressure reopened the proximally obstructed right tube.

Previous studies of severe intrauterine adhesions have reported varying results of lysis in terms of pregnancy and delivery. Pregnancy and live birth rates have been 0-57.4% and 0-32.1%, respectively [6-8]. Pabuccu *et al.* reported that sterile patients with severe intrauterine adhesions did not become pregnant [7]. Capella-Allouc *et al.* observed pregnancy in 12 of 28 patients, and nine of these 12 patients gave live birth, with four having vaginal delivery of term infants [9]. Valle *et al.* reported that 13 of 30 sterile patients achieved pregnancy, including five with term pregnancy [6]. These data suggest that it is not so easy to achieve term delivery when a severe intrauterine adhesion is recognized. We have observed severe intrauterine adhesions only in the present patient, who underwent SHG lysis for recurrence four times, with improvement in tubal occlusion. Later, the patient had natural menstrual cycles, became pregnant, and had vaginal delivery of a live term infant. SHG lysis typically can be performed without anesthesia on an outpatient basis for diagnosis of intrauterine adhesions [11], lysis of intrauterine adhesions, and restoration of tubal patency. Disadvantages include inability to fully confirm the location and status (mild, moderate, and severe) of adhesions, and likely inability to lyse some severe recurrent adhesions. SHG lysis thus, may be an option when decreased menstrual flow suggests recurrence of adhesions, and when initial lysis fails to restore tubal patency.

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