Reproductive Outcome Following Hysteroscopic Treatment of the Septate Uterus : A Result of 28 Cases at Ramathibodi Hospital

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Abstract

We reported the reproductive outcome of 28 patients with septate uterus who underwent hysteroscopic metroplasty between August 1994 and October 1999 at Ramathibodi Hospital. The majority of septa were partial. Most of the patients had recurrent pregnancy losses. Division of the septum was performed with scissors in 7, a new device of Versapoint bipolar electrode in 10, and by means of resectoscope in 11 patients. The operating time varied from 45 to 70 minutes with an average time of 50±5.5 minutes which included the time for laparoscopy. The blood loss during the operation was minimal. All 28 patients were discharged a few hours after the operation. There were no serious complications attributed to this study. Most of the patients had minor spotting but no significant bleeding for a few days after hysteroscopic surgery. Of the 28 patients, 4 patients have not tried to conceive because of personal reasons, and the other 5 patients were lost to follow-up. Fifteen patients who had postoperative hysterosalpingograms, demonstrated a normal uterine cavity. There were a total of 20 pregnancies after a mean period of 24±1.4 (range 6-42) months following hysteroscopic treatment, of which 15(75.0%) were carried to term, 3(15.0%) were spontaneous abortions, and 2(10.0%) are in progress. The rate of pregnancy wastage in the post-treatment group was 15 per cent compared with 96.3 per cent in the pretreatment group.

Key word : Hysteroscopy, Metroplasty, Septate Uterus

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Uterine anomalies resulting from failure of the mullerian ducts to fuse or canalize are known to interfere with normal reproduction in about 20-25 per cent of the patients with these conditions[1]. Among the different types of structural uterine anomalies, the septate uterus is the most common[2,3], and associated with the poorest reproductive outcome, with fetal survival rate of 6-28 per cent and a spontaneous miscarriage rate of 60 per cent[4]. It also is the one type that is most amenable to simple hysteroscopic treatment.

Surgical correction of the septate uterus has been traditionally limited to transabdominal metroplasty entailing perioperative and postoperative morbidity involved with any laparotomy and the risk of pelvic adhesion formation that can cause secondary infertility[5]. Hysteroscopic metroplasty offers several advantages over abdominal metroplasty. It avoids the laparotomy and the uterine incision. This results in reduced morbidity and eliminates the need for elective cesarean section at delivery. Patients need only a brief hospitalization postoperatively[6-8].

The purpose of our study was to present the initial reproductive outcome of hysteroscopic treatment of septate uterus in 28 patients at Ramathibodi Hospital.

MATERIAL AND METHOD

Hysteroscopic treatment of septate uterus was performed in 28 patients at Ramathibodi Hospital between August 1994 and October 1999. Ten patients had suffered from recurrent spontaneous first-trimester losses. Sixteen had recurrent pregnancy losses in the second trimester. One had previous history of premature delivery. One patient had suffered from long duration of primary infertility. The age of the patients ranged from 18-39 years and the mean age was 29.5±1.9 years. Each patient had a preoperative hysterosalpingogram (HSG) demonstrating either a septate or bicornuate uterus. Only those patients with a septate uterus were included in this study. All patients had an intravenous pyelography to rule out urologic anomaly.

Preoperative investigation for those who had recurrent pregnancy losses included complete blood count, urine analysis, HSG, basal body temperature, midluteal serum progesterone, thyroid function tests, fasting blood sugar, and chromosomal analysis. Chromosomal analysis was performed in patients who had more than two pregnancy losses.

Hysteroscopic metroplasty combined with concomittant laparoscopy was carried out mostly during the follicular phase of the cycle under general anesthesia using propofol as total intravenous anesthesia (TIVA). A rigid 26 mm hysteroscope (Karl Storz GbmH & Co., Tuttlingen, Germany) was used. The uterine cavity was distended for visualization using 1.5 per cent glycine solution at an insufflation pressure of 100 mm Hg with the fluid balance being carefully monitored. For thin septum, division of the septum was carried out by either semirigid microscissors or a new device of Versapoint bipolar electrode. For wide septum, metroplasty was made by resectoscope. The glycine soluton was changed to a physiologic normal saline for distending the uterine cavity when Versapoint bipolar electrode was used for division of the septum.

For the scissors, after observation of the septum and identification of each tubal ostium, the septum was incised starting at its lowest point approaching the fundus.

For the Versapoint bipolar electrode, an incision was made from one cornu down the septum, then across the septum. Next, beginning at the opposite cornu, the same procedure was done until a flat fundal area was visualized and each tubal ostium could be seen in the panoramic hysteroscopic view.

For resectoscope, the resection was made along each side of the septum alternately, gradually thinning the septum until a short broad notch remained that was then incised beginning at one cornual end and progressing to the other.

The incision was considered complete when a normal cavity was obtained, the hysteroscope could be moved freely from one tubal ostium to the other, and bleeding occurred from the small vessels of the fundal myometrium. The panoramic view should review the fundus and each tubal ostium. Prophylactic doxycycline 100 mg twice a day was given to all patients for 7 days.

RESULTS

28 cases of hysteroscopic treatment of septate uterus were reported. The majority of septa

were partial. Most of the patients had recurrent pregnancy losses. Ten patients had suffered from spontaneous first-trimester losses. Sixteen had pregnancy losses in the second trimester. One had a previous history of premature delivery. One patient had suffered from a long duration of primary infertility. Division of the septum was performed with scissors in 7, Versapoint bipolar electrode in 10, and by means of resectoscope in 11 patients. The operating time varied from 45 to 70 minutes with an average time of 50±5.5 minutes which included the time for laparoscopy. The blood loss during the operation was minimal. All patients were told to use barrier methods of contraception for two months after hysteroscopic treatment. Of the 28 patients, 4 patients have not tried to conceive because of personal reasons, and the other 5 patients were lost to follow-up. Fifteen patients who had postoperative hysterosalpingograms, demonstrated a normal uterine cavity. None was evaluated by repeat hysteroscopy. There were a total of 20 pregnancies after a mean period of 24±1.4 (range 6-42) months following hysteroscopic treatment, of which 15 (75.0%) were carried to term, 3(15.0%) were spontaneous abortions, and 2(10.0%) are in progress. The rate of pregnancy wastage in the post-treatment group was 15 per cent compared with 96.3 per cent in the pretreatment group. All 28 patients were discharged a few hours after the operation. There were no serious complications attributed to this study. Most of the patients had minor spotting but no significant bleeding for a few days after hysteroscopic surgery.

DISCUSSION

Hysteroscopic metroplasty has become an accepted procedure for the treatment of uterine septa. It has proved to be a safe and effective alternative to a laparotomy for the treatment of this condition[9]. Several different methods and instruments for the hysteroscopic metroplasty of uterine septum have been applied by different investigators, including semirigid microscissors[7], resectoscope[8], and laser[6]. In our series hysteroscopic metroplasties were performed with hysteroscopic scissors in 7, with a new device of Versapoint bipolar electrode in 10, and by means of resectoscope in 11 patients.

Surgical metroplasty in women with recurrent miscarriage has been found to improve subsequent reproductive outcome. Candiani et al[5] investigated the reproductive prognosis after abdominal metroplasty in 73 women with septate uterus and found that the conception and the term pregnancy rate were 91 and 70 per cent respectively. Hickok LR[8] treated 40 patients with uterine septa by hysteroscopic resection. The rate of preoperative pregnancy loss was 77.4 per cent. After hysteroscopic septum resection, 21 patients reported a total of 22 pregnancies with an 18.5 per cent miscarriage rate.

The overall reproductive outcome in this study is similar to that reported by others[5,8,10]. We found that a successful pregnancy salvage rate was significantly improved in patients with septate uterus treated by hysteroscopic metroplasty. The rate of pregnancy wastage in the post-treatment group was 15 per cent compared with 96.3 per cent in the pretreatment group.

Perino et al[11] reported that the average time of hysteroscopic metroplasty in 24 patients required 20 minutes compared with this study which required 50 minutes. This difference may be attributed to the training of our rotating residents and fellows of the Division of Reproductive Medicine.

The distention medium for operative hysteroscopy using monopolar devices is usually a non-electrolyte containing solution of 1.5 per cent glycine. This medium may be associated with fluid overload including hyponatremia and subsequent cerebral edema[12]. Versapoint bipolar electrode which is a new device for performing operative hysteroscopy can be used with a distention medium of a physiologic electrolyte containing solution of normal saline. Larger volumes of normal saline may be absorbed with less risk of fluid overload[13]. In the present study, 10 patients were treated with Versapoint bipolar electrode using normal saline as the distention medium instead of 1.5 per cent glycine. We found the Versapoint bipolar electrode to be an effective instrument for transecting the uterine septum without complication particularly fluid overload.

Potential complications of hysteroscopic metroplasty are uterine perforation with or without thermal damage to internal viscera, hemorrhage,

infection, and fluid overload from the distention media[14]. There were no serious complications in all 28 procedures.

SUMMARY

Hysteroscopy is a useful method of choice to diagnose, classify and treat patients with septate uterus. Hysteroscopic metroplasty is a safe, simple and effective procedure for the correction of the septate uterus with reproductive failure.

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ภาวะการเจริญพันธุ์ภายหลังการผ่าตัดมดลูกมีผนังกั้นผ่านกล้องส่องโพรงมดลูก รายงานผลการรักษาผู้ป่วยที่โรงพยาบาลรามาธิบดี 28 ราย

แสงชัย พฤทธิพันธุ์, พ.บ., วสันต์ ลีนะสมิต, พ.บ., F.A.C.O.G.**

ได้รายงานผลการรักษาผู้ป่วยจำนวน 28 รายที่ได้รับการผ่าตัด uterine septum ผ่านกล้อง hysteroscope ที่โรงพยาบาลรามาธิบดี ระหว่างเดือนสิงหาคม พ.ศ.2537 - ตุลาคม พ.ศ.2542 อายุเฉลี่ยของผู้ป่วย 29.5 ± 1.9 ปี (ค่าพิสัย 18-39 ปี) ผู้ป่วยส่วนใหญ่มีปัญหาเรื่อง recurrent pregnancy loss 16 รายเป็นการแท้งบุตรในไตรมาสที่ 2 10 รายแท้งบุตรในไตรมาสที่ 1 มีประวัติการคลอดบุตรก่อนครบกำหนด (premature delivery) 1 ราย ประวัติมีบุตรยากชนิดปฐมภูมิ 1 ราย ได้รับการผ่าตัดด้วยกรรไกร 7 ราย ด้วย Versapoint bipolar electrode 10 ราย และ resecto-scope 11 ราย เวลาเฉลี่ยที่ใช้ในการผ่าตัด 50 ± 5.5 นาที (ค่าพิสัย 45-70 นาที) เป็นเวลาที่รวมการส่องกล้อง laparoscope ในระหว่างที่ทำการผ่าตัด ผู้ป่วยทุกรายเสียเลือดเพียงเล็กน้อยจากการผ่าตัด uterine septum ผ่านกล้อง ภายหลังการผ่าตัดได้แนะนำให้สามีคุมกำเนิดด้วยถุงยางอนามัยเป็นเวลา 2 เดือน ผู้ป่วยจำนวน 15 รายได้รับการตรวจ HSG ซ้ำหลังผ่าตัดพบว่าปกติ จากระยะการติดตามผลการรักษาเฉลี่ย 24 ± 1.4 เดือน (ค่าพิสัย 6-42 เดือน) พบว่ามีการตั้งครรภ์ทั้งหมด 20 ครั้ง ในจำนวนนี้ 15 (75%) ครั้งสามารถตั้งครรภ์จนครบกำหนด 3 (15.0%) รายมีการแท้งบุตรในไตรมาสที่ 2 อีก 2 รายกำลังตั้งครรภ์อยู่ อัตราการแท้งบุตรก่อนการรักษา 96.3% ลดลงเหลือ 15.0% มีผู้ป่วยจำนวน 4 รายยังไม่พร้อมที่จะมีบุตรหลังผ่าตัด อีก 5 รายขาดการติดต่อไม่ได้มาพบแพทย์ ไม่พบภาวะแทรกซ้อนที่อันตรายจากการผ่าตัดผู้ป่วยผ่านกล้องทั้ง 28 ราย

สรุป กล้อง hysteroscope มีประโยชน์สามารถช่วยในการวินิจฉัยและผ่าตัดรักษาความผิดปกติแต่กำเนิดที่เป็น septate uterus การผ่าตัด uterine septum ผ่านกล้อง hysteroscope เป็นหัตถการที่ไม่ invasive และปลอดภัย ผลการผ่าตัด ติดตามในด้านภาวะการเจริญพันธุ์พบว่าอยู่ในเกณฑ์ดี

คำสำคัญ : การผ่าตัดผ่านกล้องส่องโพรงมดลูก, ความผิดปกติแต่กำเนิดชนิดมีผนังกั้น

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