

## TRANSCERVICAL REMOVAL OF UTERINE SEPTUM TO IMPROVE REPRODUCTIVE OUTCOME

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### SUMMARY

Uterine septum is responsible for a high fetal loss. Improvement in reproductive outcome performance has been universally observed following unification of uterus, either by metroplasty or transcervical septum removal. We are reporting data of 12 patients who underwent transcervical septum removal. A combined laparoscopy and hysteroscopy was done, the septum was identified on panoramic hysteroscopy and was incised using scissors or Collin's knife. Two patients had associated vaginal septum which was excised at the same time. Eight fertile patients had a total of 30 pregnancies in the past with no fetal survival and 4 patients had primary infertility. Following septum removal 7 out of 12 patients have had 9 pregnancies with fetal salvage rate of 87.5%.

### INTRODUCTION

Uterine malformations are associated with a variety of obstetric complications. Uterine septum accounts for 15-20% of diagnosed uterine malformations and is responsible for a high fetal loss. Improvement in reproductive performance has been

universally observed following unification of uterus (Daly et al, 1989; DeCherney and Polan, 1986). In preendoscopic era whenever hysterosalpingography revealed filling of two uterine cavities, it was not crucial to differentiate bicornuate from septate uterus. Both conditions were associated with poor reproductive outcome and uterine unification was done. Type of surgical procedure performed was based on opera-

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tive findings. Presently septum removal is possible hysteroscopically, thus one attempts to differentiate the two and then manage accordingly. Several studies on hysteroscopic resection are reported from West (Valle & Sciarra, 1986; Sigler & Valle, 1988) but data from our country is scant. We are reporting data of 12 patients who underwent transcervical septum removal and their subsequent follow up.

#### **MATERIAL AND METHOD**

The study includes 12 patients attending gynaecological outpatient department of AIIMS for reproductive problems. All these patients were suspected to have a double uterus on hysterosalpingogram. A complete evaluation was done to exclude other causes for reproductive problems and intravenous pyelography was done to rule out urologic anomalies. A combined laparoscopy and hysteroscopy was planned for diagnostic evaluation. The procedure was carried out during the follicular phase of cycle. Uterocervical septum was identified on panoramic hysteroscopy using glycine as the distending medium. Smooth contour of uterine fundus on laparoscopy excluded bicornuate uterus.

Septum was incised with scissors or Collin's knife at the same sitting. Laparoscopic monitoring was continued during the procedure. Laparoscopist could tell if the scissors or knife moved away from the central axis of uterine cavity or angled anteriorly or posteriorly thus reducing the risk of perforation. Complete removal was ensured by switching off the abdominal light and moving the hysteroscope from one cornua to another. Uninterrupted movement with an unbroken beam of light

confirmed this, while a momentous black-out in between indicated the presence of residual septum. After completing the septum incision tubal patency was confirmed on chromopertubation.

Two of these patients had associated vaginal septum which was excised at the same time.

All patients received post operative antibiotics for 5 days and cyclic combination pills for three months. Conception was allowed subsequently and the pregnancy was monitored appropriately.

#### **OBSERVATIONS**

Patients ranged in age from 22 to 32 years with a mean of 28.5 years. Eight patients undergoing evaluation for poor obstetric performance had recurrent fetal losses (Table I). They have had a total of 30 pregnancies with majority ending in first trimester abortions. Only three pregnancies continued beyond 28 weeks after a cervical cerclage but ultimately resulted in a preterm birth and fetal loss. Total fetal survival in all 8 patients was nil.

Four patients were being investigated for infertility (Table II). Two of these were detected to have bilateral tubal block, septum has been removed to improve success with in vitro fertilization and embryo transfer (IVF-ET).

Two patients had an associated vertical vaginal septum.

#### **Preoperative :**

In all cases hysterosalpingography (HSG) was done. In 9 patients HSG diagnosis was bicornuate uterus. In one patient the dye was injected on either side of vaginal septum and septate uterus was diagnosed on HSG, while in two patients the HSG

**Table I**

Sl. No.	Patients	Age (yrs)	Parity	Past 1st triAb	Obstetric 2nd triAb	PTD	Outcome CC	FS	Uterine Septum P/C	Vaginal Septum	Follow up (months)	Obstetric Ab	PTD	Outcome TD	FS
1.	PR	28	0040	4	-	-	-	0	C	+	60	1	-	2	2 lign
2.	SK	29	0030	2	1	-	-	0	C	-	54	-	1	0	1
									(2 sittings)						
3.	MR	32	0130	2	1	1	1	0	P	-	48	-	-	2	2
4.	K	29	0210	-	1	2	2	0	P	-	39	-	-	1	1
5.	N	32	0030	3	-	-	-	0	P	-	20	Lost to follow up			
									(Residual)						
6.	B	22	0040	4	-	-	-	0	C	-	8	Ongoing pre. 20 wks.			
7.	KL	28	0030	2	1	-	-	0	C	-	2	-	-	-	-
8.	KG	28	0060	6	-	-	-	0	P	-	2	-	-	-	-

triAb - trimester abortion, PTD - pre term delivery, CC - cervical circlage, FS - fetal survival, P - partial, C - complete, TD - term delivery.

one (U) had had a term delivery, two are waiting for IVF and one is currently undergoing assisted conception programme. Patients who conceived did not have any intra- or post-partum problem.

Prophylactic cervical cerclage was done in one patient described earlier. This 32 year old patient (MR) had had 2 first trimester, abortion 1 midtrimester abortion and one preterm delivery earlier. Cervical stitch was put in her previous pregnancy also which terminated at 29 weeks. In this patient even tubal patency could not be tested due to marked cervical incompetence. In the present pregnancy no complication occurred. The

continuing uncomplicated till term.

In two other patients routine pregnancy monitoring did not reveal any complication and both have delivered spontaneously vaginally one at term and another at 36 weeks and 4 days. The patient (U) who delivered at term was infertile for 7 years before septum removal, while the second patient (PR) has had 4 first trimester abortions in the past and required septum removal in two sittings.

Overall pre- and post-septum removal pregnancy outcome is shown in Table III. A fetal survival of 87.5% has been achieved following septum removal.

Table III  
OBSTETRIC OUTCOME IN PATIENTS WITH UTERINE SEPTUM

	Preoperative	Postoperative
Total pregnancies	30	9
1st trimester abortions	23	-
2nd trimester abortions	4	1
Preterm deliveries	3	1
Term delivery	0	6
Ongoing pregnancy	-	1
Overall fetal survival	0	7(87.5%)

stitch was removed at 38 weeks and she delivered normally 18 hours later. She had another successful pregnancy 2 years later. Another patient (K) who had one mid-trimester abortion and cervical cerclage in two subsequent pregnancies, terminated at 28 and 29 weeks, did not require a cerclage after septum removal with pregnancy

#### DISCUSSION

Approximately 20% of all pregnancy losses are because of uterine anomalies (Rock & Jones, 1977) and septate uterus accounts for 80% of all congenital mullerian abnormalities (Faycz, 1986).

Several authors have shown an improved pregnancy outcome following the removal

of uterine septum. Fetal salvage showed a marked improvement from 5-20% to 81-90% following hysteroscopic metroplasty as a preferred approach compared to abdominal metroplasty (Fayez, 1986, Siegler & Valle, 1988).

Several different methods and instruments have been used for transection of uterine septum including scissors (Daly et al, 1989), resectoscope (DeCherney et al, 1986) or laser (Choc & Baggish, 1992). A study (Vercellini et al, 1993) comparing use of resectoscope or microscissors for correction of septate uterus showed equal efficacy with both. In our study also instead of costly laser a simple inexpensive scissors or knife has been used with equal success. The transcervical metroplasty has also been carried out under ultrasound guidance (Querliu et al, 1990) or under fluoroscopic control using modified Metzenbaum scissors with long, hollow, serrated blades and blunted tips (Valle et al, 1991).

For transcervical removal of septum incision (Daly et al, 1989; Valle & Sciarra, 1986), excision (Decherney & Polan, 1983) or laser cautery (Choc & Baggish, 1992) are described. Even with incision bleeding is minimal thus hemostatic technique of excision or use of laser have not been shown to offer any special advantage.

Choc & Baggish (1992) used preoperative danazol 800mg/day for 3-4 weeks before surgery. According to them this improved view and allowed convenient scheduling of surgery. We did not consider this desirable and had no problem in visualization without prior danazol therapy. Some authors have described the use of Foley's catheter with inflated balloon (Choc & Baggish, 1992; Valle et al, 1991) or use of intra uterine

device to expand the uterine cavity post-operatively. Others have felt that this is not required as intrauterine adhesions are rare and risk of uterine and tubal infection is less if the device is not inserted (Valle & Sciarra, 1986). A controlled study by Vercellini et al (1989) comparing a group of septum resection having intrauterine device insertion and use of postoperative estrogen administration with another group having similar procedure without other therapeutic measures showed no benefit. We did not use intrauterine device or balloon catheter, but used cyclic estrogen and progestogen combination pills for 2 months.

A second hysteroscopy was required in 2 out of 12 cases of Valle & Sciarra (1986) in 2 out of 24 cases of Querliu et al (1990) and in 1 out of our 12 cases. Simultaneous laparoscopy is recommended by most authors. We also carried out laparoscopy simultaneously, not only to confirm diagnosis but also to check the tubal patency.

Abdominal metroplasty by wedge resection (Jones procedure) or incisional metroplasty (Tompkins procedure) can achieve almost similar successful pregnancy outcome, But may result in pelvic adhesions and subsequent deliveries are usually by caesarean section (Daly et al, 1983). A comparison between abdominal and hysteroscopic metroplasty by Fayez (1986) demonstrated the latter to be preferable based on cost and morbidity consideration and anatomic and reproductive outcome.

The role of uterine septum in causation of infertility is not well documented. If other factors compromising fertility were present, just the septum removal did not improve conception rate, but improved live

birth rate (Guarino et al, 1990). In a series by Querleu et al (1990), 6 of 9 patients with primary infertility achieved successful pregnancy following septum resection. Choe and Baggish (1992) also reported the effectiveness of Nd-Yag Laser transection of uterine septum to improve recurrent pregnancy loss as well as infertility. Daly et al (1983) included 8 infertile cases in their series of 25 patients and concluded that hysteroscopic metroplasty should be the treatment of choice in patients detected to have uterine septum on routine fertility workup to improve subsequent pregnancy outcome. In our series 2 out of 4 infertile patients had associated tubal block and one patient's husband has oligospermia. One has conceived successfully after septum removal.

Two cases of late hemorrhage after transervical division of a uterine septum are described in literature (Kazer et al, 1992). We also noted this problem in one patient, though it could be controlled by conservative means and feel that this complication in other series may have been under reported.

Transcervical hysteroscopic resection has the advantage that treatment is done at the same sitting, when diagnostic evaluation is being carried out. It is a simple surgery with rapid post operative recovery,

requiring a short hospital stay, thus economizing the total cost. The success is same as other unification metroplasties with an additional benefit of letting the patient conceive after a short recovery period and deliver vaginally in her subsequent pregnancies.

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