

## Role Of Abdominal Metroplasty In Congenital Mullerian Anomalies

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### Abstract

**Objective:** The present study was planned to find out the number of cases with uterine anomaly that presented in Department Of Gynaecology and Obstetrics, BSMCH with complaint of recurrent miscarriages and how surgical correction was useful to have a better reproductive outcome.

**Material and methods:** We investigated women with recurrent miscarriages who attended Gynae OPD and emergency of Dept. of G&O, Bankura Sammilani Medical College from January 2009 to December 2017. There were 31 patients with uterine anomalies.

**Result:** There were 27 cases of septate uterus and 4 cases of bicornuate uterus (total 31 cases of uterine anomaly) out of which 30 cases have been treated here; Jones' metroplasty was done in cases of septate uterus and Strassman metroplasty in cases of bicornuate uterus. 24 cases have been followed up out of which pregnancy was achieved in 22 cases. There were 2 cases of ruptured uterus and fetal loss. All others had successful pregnancy outcome.

**Conclusion:** In a poor resource set up where laparoscopic and hysteroscopic facilities are not available, abdominal metroplasty offers comparable result in cases of septate and bicornuate uterus; 2 of the most common Mullerian anomalies.

**Key words:** Congenital Mullerian anomaly, Abdominal Metroplasty

Date of Submission: 12-06-2018

Date Of Acceptance: 27-06-2018

### I. Introduction

Uterine anatomic abnormality is an important cause of recurrent pregnancy loss. A wide variety of genital malformations can occur due to developmental anomalies of the mullerian duct system that ranges from duplication of the uterus and vagina to uterine and vaginal agenesis. The most common mullerian duct anomalies are septate, bicornuate, arcuate, didelphys or hypoplastic uteri<sup>1,2</sup>. The exact incidence of mullerian anomalies is not known as uterine malformations are often undetected at birth. Women with third trimester miscarriages and recurrent abortions have an incidence of 5-10%<sup>3</sup>. recurrent pregnancy loss and infertility are the commonly reported complications that are encountered by the obstetricians and gynaecologists. Different advanced surgical procedures have resulted in improved obstetric outcomes and fertility. Recently we have operated 30 women with uterine malformations and achieved successful pregnancy outcome in 22 mothers.

### II. Material and Methods

We investigated women with recurrent miscarriages who attended Gynae OPD and emergency of Dept. of G&O, Bankura Sammilani Medical College from January 2009 to December 2017. There were 31 patients with uterine anomalies.

### III. Results

Out of 31 cases, 4 cases were of bicornuate uterus; rest 27 cases were septate uterus. USG, HSG and Diagnostic Laparoscopy was performed to confirm the diagnosis. The women were aged between 18-32 years. Out of 27 cases of septate uterus there was history of two fetal loss between 12-20 weeks in 16 cases; h/o 3 fetal loss between 12-20 weeks in 3 cases and  $\geq 4$  fetal loss between 12-20 weeks in 5 cases. Rest 3 cases had history of preterm fetal loss twice in between 24-28 weeks.. in all the 4 cases of bicornuate uterus there was h/o 2 fetal loss in between 12-16 weeks.

After the confirmation of diagnosis, the patients were counselled regarding the surgical management of their conditions and options like abdominal, laparoscopic and hysteroscopic procedures were discussed. As BSMCH is a rural medical college with limited resources, operative laparoscopic and hysteroscopic techniques are not available hence abdominal route of operation was the only feasible option here.

Out of 31 patients, 1 patient chose to continue her treatment at a higher centre equipped with laparoscopic and hysteroscopic techniques; the rest 30 patients opted for treatment in BSMCH by abdominal methods. The patients with septate uterus were treated by Modified Jones operation and the patients with bicornuate uterus were treated with Strassman metroplasty operation. Post operative recovery in all patients were uneventful. Out of the 30 patients, 6 patients were lost during follow up and the rest 24 were followed up with the below mentioned findings:

3 patients conceived within 12 months of surgery, 9 patients conceived between 12- 18 months of surgery, 6 patients conceived between 18-24 months of surgery, 4 patients conceived within 3 yrs of surgery. No pregnancy yet in 2 cases.

Among the ones who conceived, 5 patients needed ovulation induction for certain period; rest all conceived naturally.

Regarding the obstetric outcomes:

2 patients had early pregnancy loss; one at 18 weeks and one at 21 weeks. In their next pregnancy they were given prophylactic cerclage after 14 weeks and subsequently delivered by elective cesarean section after 37 completed weeks.

2 cases presented in the emergency with rupture uterus: one at 32 weeks and the other at 36 weeks and unfortunately both had to be managed by peripartum live saving hysterectomy.

3 cases presented in the Gynae emergency within 32-34 weeks with signs and symptoms of preterm labor. All three of them delivered vaginally and the baby survived with the assistance of SNCU in all the 3 cases. No cases of rupture uterus was noted in these 3 cases. Rest 15 cases were delivered by elective cesarean section after 37 completed weeks with healthy live babies in all the cases.

All 4 cases of bicornuate uterus were followed up and pregnancy was achieved in all of the cases.

In the extended follow up 3 cases were admitted for the delivery of their 2<sup>nd</sup> pregnancy and were subsequently ligated: 7 cases were carrying their 2<sup>nd</sup> pregnancy and 5 cases were following contraceptive practice using ocp.

**Table 1: age group distribution**

Age group	No. of mothers
18-20 yrs	6
21-25 yrs	11
26-32 yrs	14

**Table 2: parity wise distribution**

Parity	No. of mothers
2	23
3	3
4 and above	5

#### **IV. Discussion**

The incidence of mullerian duct anomalies varies from 0.1% to 4.3 %<sup>4,5,6</sup>. It is slightly higher in women with recurrent abortions, third trimester pregnancy losses and preterm deliveries.

Septate uterus is the commonest of all mullerian duct abnormalities. The septum extending from the fundus is composed of fibromuscular tissue. Though fertility is not hampered naturally in patients with septate uterus, poorest reproductive outcomes have been reported in these patients. Common presenting symptoms in this type of mullerian duct anomalies are dysmenorrhoea and infertility. Reproductive outcome in women with uterine anomalies with septate uterus had been reviewed by Lin et al from several studies.<sup>7</sup> The following outcomes were reported: 75.7% spontaneous abortions, 10% preterm deliveries.

The presence of septate uterus is not an indication for surgery unless it is complicated with poor obstetric outcome. HSG followed by Laparoscopy is needed to confirm the diagnosis. Transvaginal sonography is also helpful in diagnosing septate uterus with a sensitivity of 100% and specificity of 80%.<sup>8,9</sup> USG was done in all patients. We have performed laparoscopy in all patients with previous HSG report of a septate uterus or bicornuate uterus.

Hysteroisocopic metroplasty with concurrent laparoscopy is the standard treatment of choice in a patient with septate uterus<sup>10,11,12</sup> Though abdominal metroplasty has been abandoned with the advent of modern endoscopic techniques, we have performed Modified Jones Operation in patients of septate uterus in a limited

resource surgical set up. Post operative haemorrhage and perforation has been reported in during hysteroscopic metroplasty.<sup>12</sup>

Fetal survival rates are remarkably improved after surgery. After Jones metroplasty, 95% pregnancy rate has been reported with 77% child survival rate.<sup>13</sup> In our study, 90% pregnancy rate and 80% child survival rate has been documented following metroplasty. Several observational study are available regarding the successful pregnancy outcome after hysteroscopic metroplasty<sup>14,15</sup>. One group reported 74% reduction of spontaneous abortion and another group observed 91% delivery rate following endoscopic metroplasty<sup>6</sup>. There are obvious advantages of trans cervical lysis of septum over abdominal metroplasty in a septate uterus. Morbidity is low and delivery by vaginal route may be safer in comparison to Modified Jones operation though term pregnancy rates are comparable.

Bicornuate uterus is considered as an incidental finding. Usually these patients have no difficulty in conception. Premature labor and late abortions are common obstetric complications but more than 50% patients deliver viable infant.<sup>16</sup> Heinonen reported 28% spontaneous abortion and 20% preterm delivery in patients with bicornuate uterus. Similar result was observed by Lin et al in their comprehensive review of reproductive outcomes for mullerian anomalies.<sup>7</sup>

Strassman metroplasty is the treatment of choice for patients with bicornuate uterus who have experienced recurrent abortions, mid trimester miscarriages and premature birth. In our study, 4 patients had several spontaneous abortions. All of them conceived after the Strassman procedure. 86% of viable birth had been reported by Strassman in his study<sup>17</sup>. Most obstetricians recommend elective caesarean section operations but uterine rupture was rarely reported in vaginal delivery following abdominal metroplasty in bicornuate uterus.<sup>17</sup>

So abdominal metroplasty plays an important role for better reproductive outcome with recurrent pregnancy losses due to mullerian anomalies like septate or bicornuate uterus. Hysteroscopic metroplasty has replaced abdominal metroplasty in patients with septate uterus but modified Jones procedure is still useful in poor resource surgical setup and presence of a broad septum in septate uterus.

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Debjyoti Santra "Role Of Abdominal Metroplasty In Congenital Mullerian Anomalies."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 6, 2018, pp 29-31