Reproductive outcome following hysteroscopic septal resection

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Abstract

Introduction: Uterine septum is one of the commonest congenital malformations observed in patients with poor obstetric outcome. The incidence could be as high as 80%-90%. The aim of our study is to found out the reproductive outcome among patients undergoing hysteroscopic septal resection.

Materials and Method: A retrospective study was conducted over a period of 2009 to 2013 in VIMSAR and Samleswari hospital Burla. All the patients undergone septal resection, followed for a period of three years and their reproductive outcomes were noted.

Results: A total of 32 women were recruited over a period of 5 years and out of this 12(37.5%) presented with infertility and 20(62.5%) had bad obstetrics history. In the primary setting septal resection was completed in 29(90.62%) and in three patients required a second setting to complete the procedure. Out of this three patients, 2(6.25%) had uterine perforation and in patient procedure was abandoned due to development of pulmonary edema. Follow up was available for 28 patients and 4 women were lost to follow up. A total of 24(85.71%) women were conceived with 17(60.71%) had deliver a live baby.

Conclusion: Hysteroscopic septal resection is a simple and safe procedure with no increase in morbidity or mortality. Besides this it is associated with a better pregnancy outcome.

Keywords: Infertility, Hysteroscopy, Laparoscopy, Uterine septum, Uterine congenital malformation

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Introduction

Septate uterus results from incomplete resorption of the two paramesonephric duct, which may be partial or complete. It is one of the most common congenital uterine malformations seen in women with increased incidence in patients with poor obstetric outcome.[1-4] It constitutes 80%-90% of total congenital uterine malformation seen. Most commonly it causes recurrent abortion and other poor obstetric outcome along with infertility.[5,6] Available literature has controversial reports on pregnancy outcomes following hysteroscopic septoplasty. The incidence varies of pregnancy rate varies from 39 to 84%[7,8] with a live birth rate of 26-73%.[9,10] We have conducted a retrospective analysis of pregnancy outcome following hysteroscopic septoplasty.

Materials and Method

For this retrospective study we collected data of patients admitted to two hospital, Veer Surendra Sai Institute of Medical Science and Research Center (VIMSAR) and Sameleswari Hospital, Burla. The surgery was performed between January 2009 to December 2013 and all the patients were subsequently followed for a period of three year. All the women with confirmed diagnosis of primary infertility admitted and managed in the above mentioned hospital were included in this study. Infertility is defined as the failure to conceive following 12 months of unprotected intercourse. Primary infertility patients were those who had never conceived before. Patients with secondary infertility were those who had previous pregnancy event but now failure to conceive for more than a year despite regular unprotected intercourse. During their first visit to hospital detail history of the patients along with general physical and systemic examinations including gynaecological examination were carried out. Relevant laboratory examination like thyroid function test, serum prolactin, Hysterosalpingogram, USG, Semen analysis, endometrial biopsy to rule out tuberculosis were done from case to case basis.

The surgery was performed by two surgeons. Before surgery a consent form was signed relevant to the surgery. Twelve hours before the surgery a tablet misoprostol 400 µcg was kept intravaginally. The cervix was dilated upto the Heagar's dilator number 10. Procedure was performed under general anaesthesia under laparoscopic guidance. For the procedure 1.5% glycine with in a continuous irrigation system was used. Input and output of fluid was measured strictly. Here monopolar current was used. In 10 patients normal saline was used with the bipolar current. An intrauterine device was kept for 6 weeks post-surgery. Post procedure patients were advised to take conjugated equine estrogen 0.625 mg for 6 weeks. Post -surgery women were advised contraceptives for at least 3 months following which all were advised for unprotected intercourse. Those who failed to conceive were given ovulation induction agents. All patients data regarding pregnancy events and those who failed to

conceive were entered in an excel sheet. All statistical analysis carried out in SPSS-12 version software.

Results

In this retrospective study total 32 patients were recruited over the period of 5 years. The mean ages of the patients were 28.96±5.23 years. Details of patients profile with their reproductive outcome are described in Table 1. Twelve women presented with infertility out of which 7(21.87%) women had secondary infertility and 5(15.62%) of patients had primary infertility. The mean duration of infertility was 45.59±12.28 months. In all the patients diagnostic laparoscopy was performed and 4 patients had poly cystic ovarian syndrome for which ovarian drilling was done and two patients needed fimbrioplasty for distal tubal occlusion. While performing septal resection two patients (6.25%) had uterine perforation though no intrabdominal injury had occurred and this was confirmed by laparoscopy. Total three patients (9.3%) had re-septoplasty, out of which two patients had uterine perforation and one patient had pulmonary edema for which procedure was abandoned. After surgery all patients were advised for conjugated equine estrogen 0.625 mg for 6weeks.All of them allowed to conceive spontaneously three months after surgery. Out of 32 patients four patients were lost to follow up and 28 patients were under our follow up. Eleven patient (39.28%) conceived spontaneously, 13(46.42% required ovulation induction, 4(14.28%) required intrauterine insemination and two patients (7.14%) conceived by in vitro fertilization.

Table 1: Patients profile with reproductive outcomes after septoplasty (n=32)

Characteristics	
Age in years (Mean ± SD)	28.96 ±5.23
Infertility	
Primary	5(15.62%)
Secondary	7(21.87%)
Bad obstetrics history	20(62.5%)
Duration (Years) of infertility (Mean ± SD)	45.59±12.28
Associated pelvic pathology	
PCOS	4(12.5%)
Tubal pathology	2(6.25%)
Complication	
Perforation	2(6.25%)
Fever	1(3.1%)
Pulmonary edema	1(3.1%)
Re septoplasty	3(9.3%)
Mode of conceive	
Lost to follow up	4(12.5%)
Spontaneous	11(39.28%)
Ovulation induction	13(46.42%)
IUI	4(14.28%)
IVF	2(7.14%)
Pregnancy outcome	
Failure to conceive	4(14.28%)
Spontaneous abortion	7(25%)
Live birth	17(60.71%)
Multiple pregnancy	
Single ton	20(71.42%)
Twin	3(10.71%)
Triplet	1(3.57%)

Complete follow up for pregnancy outcome was available for 28(87.5%) patients. Out of this, 24(85.71%) of patients were conceived. Four patients had multiple pregnancies, out of which three had twin pregnancy and one woman had triplet pregnancy conceived after ovulation induction. So we have reported total 29 pregnancies in 24 patients. Out of the 24 pregnant women 7(25%) had spontaneous abortion and 17(75%) had live birth baby. A total of 5(20.83%) of babies were born preterm and rest of the 19(79.17%) of babies delivered at term.

Discussion

Septate uterus is the most common uterine malformation seen in women. Initially it was treated with abdominal metroplatsy. But due to the high complication rate during pregnancy and safer alternative like hysteroscopic septoplasty available, it is rarely used now a day.[11] The only indication for trans-abdominal metroplasty is associated other pelvic pathology. But this can also be dealt laparoscopically. We performed hysteroscopic septal resection under laparoscopic guidance. By combining both hysteroscopy and laparoscopy, the rate of uterine perforation can be reduced to minimal and also many pelvic pathology can be simultaneously treated. Many surgeons prefer laparoscopy in women with complete uterine septum to rule out bicornuate uterus.[12] Various methods were described in the literature regarding how to perform septal resection like argon laser, monopolar or bipolar electrocautery but none of them are superior to each other. Many authors compared the pregnancy outcome with the above described methods with conflicting results.[7,13,14] As such there is no concrete evidence which is better for the pregnancy outcome. But due to less intraoperative complications with better safety bipolar electrocautery is preferred in many centers. Now we are performing the same surgery utilizing bipolar electrocautery though during this study we have used monopolar current with 1.5% glycine. In earlier days post procedure it was advised to keep an intrauterine device to prevent intrauterine adhesion as well as unwanted pregnancy.[15] But now days no evidence suggests to keep any intrauterine devices following a septal resection. Few patients require resurgery though the incidence rate is not high and it is approximately 6%.[16] In our series it was 3(9.2%). These results suggest in most patients successful removal of septum can be accomplished in the first setting itself. For beginners it is better to start with

laparoscopy along with hysteroscopic septal removal to prevent uterine perforation. As once perforations occur there is lack of uterine distension and procedures need to be carried out in a second setting. There is conflicting evidence about the beneficial role preoperative use of misoprostol, but recent meta-analysis suggests that patient using misoprostol compared to placebo or no cervical ripening method have less likely to require cervical dilation.[17] In many literatures it was quoted that after hysteroscopic septal resection pregnancy outcomes as well as number of women who conceives were increased. The reported incidence of pregnancy rate after metroplasty varies from 40% to 67%.[18-20] We have reported anincidence rate of 60% live birth rate with 85% women conceived after the procedure. The incidence of uterine rupture after septal resection is increased as reported in the literature though we did not find any correlation though it may be possible because of small sample size. But patients undergoing this procedure should be made aware of this fact and they should again be counselled during pregnancy.

Conclusion

Hysteroscopic septal resection is a safe procedure with better pregnancy outcome. For beginners, with the use of bipolar electrocautery and performing the surgery under laparoscopic guidance can further reduce the rate of complications.

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