

# Management of uterine anomaly as a cause for recurrent pregnancy loss

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## Abstract

**Background and Objective:** The true incidence of uterine defects in the general population is not known, but the mean incidence in the general population of fertile women is approximately 4.3%. In patients with recurrent pregnancy loss, the incidence of uterine defects can be as high as 13%. In which most common uterine abnormality is septate uterus Complete/Partial accounting for approximately 35% of all uterine anomalies. Retrospective evaluation of uterine septum in a population of patients with history of recurrent pregnancy loss is mandatory. Complete clinical evaluation of patients with recurrent pregnancy loss is needed and proper surgical intervention in patient of uterine septum is required for future good pregnancy outcome. **Methods:** 50 cases of recurrent pregnancy loss were examined and after excluding other causes of recurrent pregnancy loss, five patients were suspected to have uterine anomalies by Hysterosalpingography, These patients were further subjected to hysteroscopy for conforming diagnosis and septum resection after identifying uterine anomaly as a cause of recurrent pregnancy loss. **Results:** Minimum five patients underwent septum resection hysteroscopically. Out of five, four patients had successful pregnancy rate with live birth rate of about 80% with one having preterm delivery secondary to infective etiology. **Conclusion:** In women with recurrent pregnancy loss having uterine anomaly [uterine septum], further pregnancy rate is not impaired with good live birth rate. septate uterus a commonly encountered cause of recurrent pregnancy loss, which is easy to diagnose and completely curable by surgical procedure like Hysteroscopic septum resection, chances of pregnancy reaching upto term is increased with good outcome of baby and mother.

**Key Word:** uterine anomaly, pregnancy loss.

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## INTRODUCTION

Incomplete resorption of the mullerian duct during embryogenesis leads to mullerian anomalies which may alter the reproductive outcome of the patients. The true incidence of uterine defects in the general population is not known, but the mean incidence in the general

population of fertile women is approximately 4.3%, and in infertile women it is 3.5%. In patients with recurrent pregnancy loss, the incidence of uterine defects can be as high as 13%. The most common uterine abnormality is septate uterus, accounting for approximately 35% of all uterine anomalies. <sup>1</sup>A septate uterus is not a primary factor for infertility. Nearly 40 % septate uterus have reproductive failure, obstetrical complications and an increased incidence of recurrent miscarriages.<sup>2</sup>Uterine septum resection by a hysterolaparoscopic approach has been found to be beneficial with significant improvement in pregnancy rates post procedure. This has many advantages such as shorter operating and hospitalization periods, reduced risk of post operative pelvic adhesions, low morbidity and an increased rate of vaginal delivery. This retrospective study has been designed to evaluate the impact of hysteroscopic septum resection on the reproductive outcome of patients with a history of

primary and secondary infertility. Some müllerian defects are associated with minimal obstetric risk, but septate uterus is associated with the highest incidence of reproductive failure and obstetric complications. Women with septate uterus have a marked increase in risk of spontaneous abortion, preterm delivery, abnormal fetal lie, and Caesarean section.<sup>3</sup> Of all clinical pregnancies in the general population, 15% to 20% will end in spontaneous abortion. The mechanism by which a uterine septum causes an adverse pregnancy outcome is not completely understood. The most widely accepted theory is that the excessive amount of fibroelastic tissue and poor blood supply of the septum can have an adverse effect on placentation.<sup>4-7</sup>

## MATERIALS AND METHODS

### Study design

This study is a retrospective study. 50 cases of recurrent pregnancy loss were examined and after excluding other causes of recurrent pregnancy loss, five patients were suspected to have uterine anomalies by Hysterosalpingography. These patients were further subjected to hysteroscopy for confirming diagnosis and septum resection after identifying uterine anomaly as a cause of recurrent pregnancy loss. We focused only on septate uterus in our study, we exclude the patients with associated genital or pelvic disease myomas, endometriosis, adhesion and pelvic inflammatory disease. All of the patients and their partners had complete infertility or recurrent miscarriages and underwent investigations with detailed history, clinical examination, and laboratory analysis. Potential causes such as diabetes, hypothyroidism, hypopituitarism, hyperprolactinemia, luteal insufficiency, and hyperandrogenism were analyzed in endocrinometabolic assessment records along with third-day follicle-stimulating hormone FSH, luteinizing hormone LH, and estradiol E2 test results. Transvaginal ultrasounds TVUSG, cervical smears, and sexually transmitted diseases records were obtained, as was a semen sample from the partner. Under general anesthesia, hysteroscopic septum resection was performed using unique bipolar system with normal saline as distension medium to avoid potential hyponatremia. Power settings ranged from 50 W to 200 W. The bipolar cautery offers, spring and ball electrode for rapid and precise tissue vaporization and desiccation, respectively. After assessing the direction and length of uterocervical canal, the cervix was dilated using Mathew Duccan dilators upto size 15. The operative external sheath of the versa point of 9 mm diameter was introduced and hysteroscopy was performed. The septum was divided into and fro upward direction until complete visualization of both tubal ostia. There were no

complications such as uterine perforations, excessive bleeding, fluid overload or thermal injury. Post procedure, all the patients were put on hormone replacement for one to two cycles to enable recovery of endometrium. The endometrium was prepared with incremental doses of estrogens Estradiol Valerate 2 mg commencing from day 2 or day 3 of the cycle to a maximum of 8 mg/day with initiation of uterogestan natural micronized progesterone 200 mg thrice a day. They were subsequently treated by assisted reproductive technology ART or advised for natural conception.

## RESULTS

All septum were successfully resected with no hysteroscopic or anesthetic complications. Minimum five patients underwent septum resection hysteroscopically. Out of five, four patients had successful pregnancy rate with live birth rate of about 80% with one having preterm delivery secondary to infective etiology.

## DISCUSSION

The etiology of infertile patients with uterine anomalies remains unclear. Our study supports the use of hysteroscopic septum resection to improve pregnancy outcome in patients with a history of recurrent pregnancy loss. A hysteroscopic guided septum resection not only eliminates an unsuitable site for implantation but also results in a better endometrial function, probably through re-vascularization of the connective tissue of the uterine fundus and significantly improves nidation.<sup>8</sup> The septum is thought to be composed of fibroelastic tissue with inadequate vascularization and altered relations between myometrial vessel, thus exerting a negative effect on fetal placentation.<sup>9</sup> In a literature survey, miscarriage and preterm delivery rates prior to septum resection were 88% and 9% respectively, and live birth rate as only 3%. After septum resection, these rates were 14%, 6% and 80% respectively.<sup>10-11</sup> In our study, there have been no cases of post operative uterine rupture which is one of the most serious complications or other complications related to procedure such as fluid and electrolyte imbalance, thermal injury or perforation

## CONCLUSION

In women with recurrent pregnancy loss having uterine anomaly [uterine septum], further pregnancy rate is not impaired with good live birth rate. septate uterus a commonly encountered cause of recurrent pregnancy loss, which is easy to diagnose and completely curable by surgical procedure like Hysteroscopic septum resection, chances of pregnancy reaching upto term is increased with good outcome of baby and mother.

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