



## AN INNOVATIVE METHOD OF MANAGING COMPLETE UTEROCERVICOVAGINAL SEPTUM USING FOLEYS BALLOON: A CASE REPORT

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**ABSTRACT** We present a case of 33-year-old female, married for 6 years, anxious to conceive. General examination was within normal limits. On Speculum Examination there was longitudinal vaginal septum with unequal cavities, cervical openings seen on either side of septum. Ultrasound suggestive of? septate uterus. All other infertility workup was within normal limit. 3D ultrasound suggestive of septate uterus. After preoperative investigations with consent of patient, she was posted for Hysteroscopy with Hysteroscopic resection of uterine septum. Initially hysteroscopy was performed findings were confirmed followed laparoscopy & broad fundus was seen. Foley's balloon was inserted into the one of the hemi cavity inflated with dye, pulled to create a bulge on other side, and uterine septum was cut using scissors till balloon on the other side was visible. Resection was done till both cornu were visible. Foley balloon was kept inside the uterus for few days to keep endometrium compressed. This new technique is safe, easy & minimally invasive for treatment of complete uterine septum.

### KEYWORDS :

#### INTRODUCTION:

Septate Uterus is the most common Mullerian abnormality of female genital tract, occurs due to abnormal resorption of mullerian canal. It causes infertility, recurrent miscarriages, malpresentations & preterm births. Surgical correction improves the obstetric outcome. When hysteroscope is inserted into the hemi cavity it is difficult to evaluate the initial cutting point. If the balloon is inserted, inflated & pulled it is easy to identify the cutting point, make a hole with scissor & continue resection till both cornua are visible in same line.

#### Case:

33 years old female, nulligravida, married for 6 years, anxious to conceive. Her menstrual cycles were regular. General examination was within normal limits. On Speculum examination there was a vertical vaginal septum, mobile. cervical opening was seen on either side of septum.

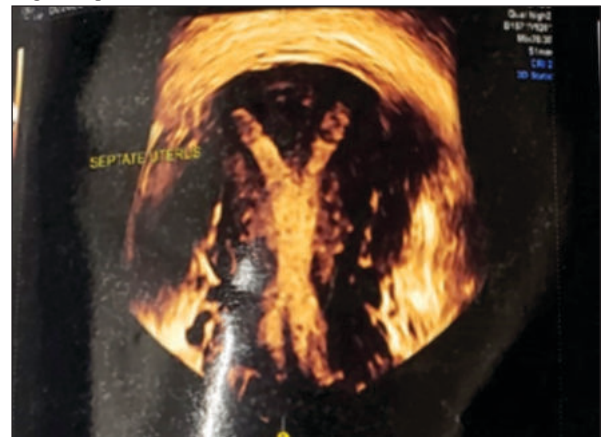


**Fig 1.**

All infertility investigations for her & her partner were normal except her transvaginal ultrasound was suggestive of? septate uterus. 3D ultrasound was suggestive of septate uterus.

After preoperative workup & with consent she was posted for Hysterolaparoscopy with septum resection. Under Regional anesthesia,

Cervix dilated with Hegars dilator up to 5 Fr. Diagnostic sheath of hysteroscope introduced and findings of complete utero-cervico-vaginal septum was confirmed.



**Fig 2 3D Ultrasound**

Laparoscopy was performed, broad fundus was seen. Fallopian tubes and ovaries were normal.

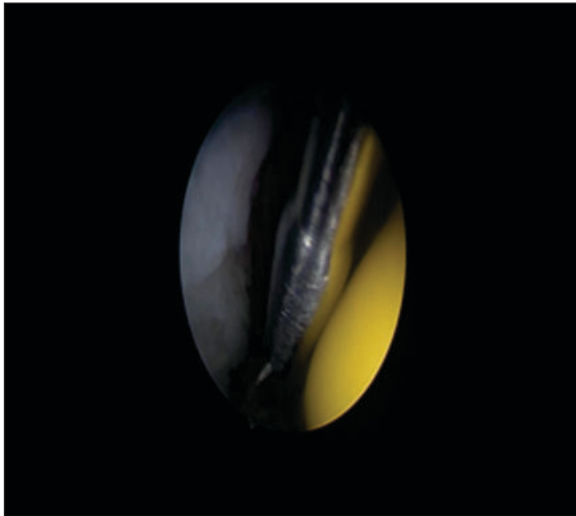


**Fig 3.** Broad Fundus at Laparoscopy

Number 8 Foley balloon catheter was inserted in the one of the hemicavity, inflated with dye 2.8 cc methylene blue. Cervix dilated with Hegars dilator 8 mm and hysteroscope with operative sheath introduced in the cervix in the other hemicavity. Little pull on foleys made it bulge on other side, thus identifying the initial point of cutting

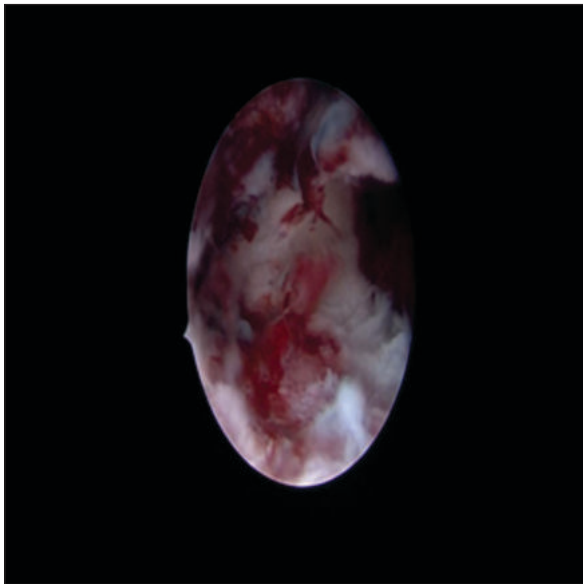
point. 5F scissor introduced through the operative channel and a hole was made in the septum till foleys bulb was visible on other side & then septal resection was continued till both cornua were visible simultaneously in the same line and below till cervix till Single uterine cavity was seen. In order to prevent cervical insufficiency cervical septum was not cut, many authors recommend not to cut the cervical septum. There was no sexual difficulty as vaginal septum was mobile, it was not cut.

Surgery took 25 minutes for completion. No complications such as uterine perforation, visceral injury, excess bleeding or fluid overload were seen. Postoperatively patient was comfortable and was discharged next day.



**Fig 4.** Septum Cutting With Foley Seen.

#### Single Uterine Cavity.



**Fig.5** Final View

Foley's catheter was kept inside the uterus for 10 days to keep area of resection compressed and to prevent adhesions. Postoperative estrogen progesterone hormones were given for 1 month to prevent adhesions.

#### DISCUSSION:

Uterine septum develops as a result of failure of resorption of tissue connecting two Mullerian ducts. Its most common congenital uterine anomaly, prevalence is 0.2-2.3%. The association between septate uterus and miscarriage is generally accepted, while the association with infertility remains unclear.

A recent systematic review by Rikken et al., commented that although

the biological basis of the unfavorable reproductive outcome with uterine septa is yet to be proven, the gross anatomy of the septum or histological difference in the endometrium covering the septum or gene expression as lower expression of HOXA10 genes and VEGF receptor genes could possibly attribute for the impaired reproductive outcome. 1

There is no universally accepted definition of Uterine Septum. European society of human reproduction & European Society of Gynaecology endoscopy (ESHRE/ESGE), American Society of Reproductive Medicine, Congenital Malformation by Experts (CUME) allows objective classification based on 3D ultrasound. Septate uterus defined as an internal indentation extending >50% of myometrial wall thickness. 2 Hysteroscopic septal resection improves clinical pregnancy rates in women infertility. 3

Although high quality randomized controlled prospective trials is still lacking on the efficacy of surgical treatment, the current evidence from retrospective observational studies and non-randomized comparative studies shows that septum surgery is beneficial in symptomatic women 2, Many surgical techniques have been used to improve the results, to overcome difficulties during the procedure such as identifying initial cutting and end point of surgery, decrease complications such as perforation, adhesions formations, to decrease operative time to decrease fluid overload.

When hysteroscope is inserted into the hemiuterus, it is difficult to evaluate exact septal wall area due to retroversion or anteversion and/or right or left deviation of uterus. Before surgery, MRI is useful to measure length and width of septal wall but it is not good enough to show the initial cutting point of septum. Concomitant laparoscopy during hysteroscopy is also useful to prevent perforation but it cannot visualize the initial point of cutting of septum (Tajiri et al., 2015). 3

To overcome this difficulty, we used foley balloon catheter. Ballooning in one hemiuterus is helpful in evaluation of septate septal wall. Ballooning makes septum bulge so we can easily evaluate where the septal area is by hysteroscopy. Then we can confirm the septal area by pulling the tail of balloon. In 2018 a case report published in a Journal of Development & reproduction had a successful pregnancy outcome in an 40 year old woman with previous 1 abortion, 3 IVF cycles with 6 years infertility after hysteroscopic septal resection. Ambulatory hysteroscopic septoplasty using dye-filled ballooning can be easily done at ambulatory operating room and is a recommendable choice of treatment. 4

Hysteroscopy scissors are easy to use, safe, avoids use of expensive resectoscope and cautery current. Prevents damage to visceral organs in case of accidental perforation.

A retrospective study of 70 women compared the results following hysteroscopic septum incision using cold scissors (17 women) compared with resectoscope with unipolar cautery (53 women). Pregnancy rates and delivery rates were significantly greater in the scissors group. 5

In order to prevent cervical insufficiency cervical septum was not cut, many authors recommend not to cut the cervical septum. There was no sexual difficulty as vaginal septum was mobile, it was not cut.

Post operatively keeping foley balloon in situ helps to prevent intrauterine adhesions. We kept balloon for 10 days along with hormones. One prospective randomized controlled study in 28 patients undergoing septum incision evaluated postoperative Foley balloon placement (14 French pediatric Foley balloon with 5 mL normal saline for 5 days) compared with no treatment. None of the women were treated with antibiotics, preoperative endometrial thinning, or adjuvant postoperative hormonal therapy. There were no abnormalities noted by HSG at 3 months postoperatively in either group. 6.

Treating uterine septum is associated with improved live birth rates in patients with infertility and recurrent pregnancy loss. 7

In one cohort study, more than half of the women with a septate uterus had a live birth. Septum resection did not lead to improved reproductive outcomes compared to expectant management in these women; septum resection did not increase the chance of live birth, nor did it decrease the chance of pregnancy loss or preterm birth. In

contrast, septum resection may have decreased the chance of fetal malpresentation.<sup>8</sup>

The ASRM guideline for septate uterus recommends to remove the intrauterine septum (ASRM, 2016); the NICE guideline of recurrent miscarriage states that 'current evidence on efficacy is adequate to support the use of this procedure provided that normal arrangements are in place for clinical governance, consent and audit'; and the ESHRE guideline for recurrent pregnancy loss and the RCOG guideline recurrent miscarriage recommend not to perform the surgery and state that the procedure should be evaluated in future studies (RCOG, 2011; NICE, 2015; ESHRE, 2017).

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