

# LAPAROSCOPICALLY MONITORED HYSTEROSCOPIC RESECTION OF A UTERINE SEPTUM

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## ABSTRACT

Hysteroscopic resection of uterine septa has replaced metroplasty through laparotomy as the surgical treatment of choice in the management of uterine septum associated with recurrent pregnancy loss. However, the procedure is occasionally complicated by uterine perforation. Furthermore, the extent of resection is often a difficult decision. We report the surgical procedure used in treating a patient, and the technique used in resolving these difficulties. The recent literature is reviewed.

## RÉSUMÉ

La résection hystéroscopique transversale supplante maintenant la métroplastie par laparotomie comme méthode chirurgicale de choix dans le traitement des cloisons utérines provoquant des avortements spontanés à répétition. Toutefois, la méthode est occasionnellement compliquée par une perforation de l'utérus. En outre, le type de résection présente souvent un dilemme difficile à résoudre. Nous présentons la méthode chirurgicale utilisée pour traiter une patiente et la technique adoptée pour résoudre les difficultés. Nous passons enfin en revue les publications récentes sur la question.

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## KEY WORDS

Hysteroscopy, laparoscopy, uterus, anomalies, abortion, habitual, transillumination.

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## INTRODUCTION

Traditional surgical management of uterine septa associated with recurrent pregnancy loss involves a transfundal metroplasty. These procedures require lengthy anaesthesia, and a greater likelihood of surgical complications including haemorrhage, infection, and adhesion formation. The period of recovery is often protracted, and patients require a Caesarean section for future deliveries.

Transcervical hysteroscopic resection of a uterine septum was first proposed in 1970.<sup>1</sup> Later, DeCherney reported that hysteroscopic resection was technically possible in about seventy percent of patients with recurrent abortion in the presence of a uterine septum.<sup>2</sup> Of those patients who were surgically treated, eighty percent had a subsequent successful delivery.

We describe our operative technique in managing a patient with a uterine septum, and this is followed by a review of the literature.



## CASE REPORT

The patient was a twenty-five year-old female who was found on previous hysteroscopy to have a uterine septum that extended about two-thirds of the way down the uterine cavity in the midline. After discussion of the problem, options, procedures, and possible complications, she was taken to the operating room for resection of the uterine septum. Hysteroscopy and laparoscopy were used simultaneously. The laparoscope was employed to monitor the uterine fundus while the uterine septum was being resected, to ensure that the uterus would not be perforated.

The cervix was dilated to Pratt dilators size thirty-three. A thirty degree hysteroscope was inserted. Saline was used as the distending medium. Scissors were employed to resect the septum. Only a small amount of bleeding was encountered throughout the procedure. The septum was gradually resected up to the region of the fundus. Intermittently, the laparoscopic light source was switched off to look for transillumination through the fundus, provided by the hysteroscopic light. The resection was terminated when transillumination was noted.

Postoperative pain was minimal, requiring only 650 gm of acetaminophen in the ten-hour period after the surgery. Vaginal discharge was scanty and appeared serosanguinous. The patient was discharged home in good condition the next morning.

## DISCUSSION

Uterine anomalies occur in 3.2 percent of the fertile female population with normal reproductive history, ninety percent of which are septate uteri.<sup>3</sup> However, in the population which have uterine anomalies, about twenty to thirty-five percent may have problems with reproduction, recurrent abortion being one of the most significant.<sup>4</sup> Treatment with hysteroscopic resection produces a decrease in the abortion rate from about ninety percent before surgery to about ten percent after surgery,<sup>5</sup> a result as good as abdominal metroplasty but without the need to perform a laparotomy or subsequent Caesarean section.<sup>6</sup> Today, therefore, abdominal metroplasty should be reserved for the situation in which the patient has additional pelvic lesions requiring laparotomy.<sup>7</sup>

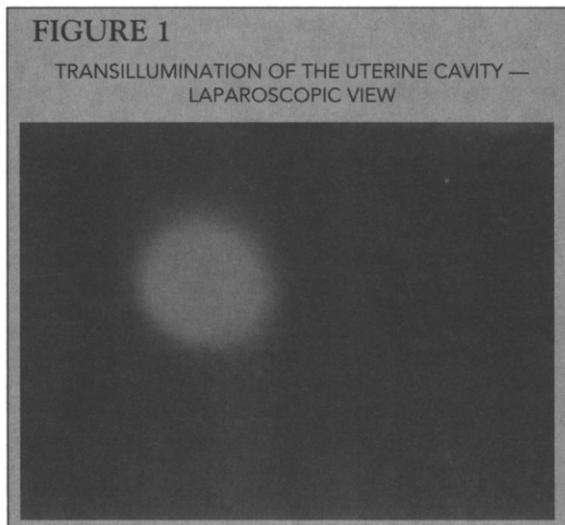
A liquid distension medium was used in this case, as in many operative hysteroscopic procedures.<sup>8</sup> The traditional liquid distension medium has been dextran 70. Glycine is now preferred by most surgeons as it is not viscous, permits a clear visual field, and is not a conductor of electricity.<sup>9</sup> If electrical current is not used, as in this case, saline or Ringer's lactate can be the distension medium. CO<sub>2</sub> has also been used.<sup>10</sup>

Resection of the septum can be carried out, using semi-rigid scissors or a resectoscope. Comparisons of the reproductive outcomes after surgery, including the number of spontaneous abortions, pregnancies to term, and mean time between surgery and conception showed similar results in the two groups. Operator experience was the most important factor in the selection of the instrument. Of note is the study by Cararach *et al.* in which of the 17 patients treated with scissors, three had uterine perforations, indicating that excision limit is a difficult decision to make during the surgery. Electric knives<sup>12</sup> and lasers<sup>13</sup> have also been used.

Traumatic complications of hysteroscopy have been well documented. The rates of cervical laceration, uterine perforation, with or without haemorrhage, have been estimated to be between one and nine percent.<sup>14</sup> Uterine perforation is suspected if the depth of passage of the sound or the dilator is greater than the apparent size of the uterus, rapid flow of liquid, or visualization of the bowel.<sup>15</sup> Concurrent laparoscopy at the time of hysteroscopic resection, as in this case, permits constant monitoring of the serosal surface of the uterus.

An important decision during the procedure is how to determine the end point of resection. While over-aggressive resection may result in perforation, inadequate resection may necessitate further surgery.<sup>16</sup> Most surgeons stop resection when an uninterrupted imaginary line can be drawn between the tubal ostia. Others use ultrasound to distinguish the septum from the myometrium.<sup>17</sup> Our technique with transillumination by the hysteroscopy light has the charm of simplicity and is probably more effective (Figure 1).

Some surgeons treat the patients with danazol or a GnRH analogue pre-operatively to reduce the amount of endometrium that may obscure the surgeon's view during the procedure, and to reduce intra-operative bleeding. Pre-operative medication was not used in this case as scissors resection is known to produce minimal bleeding.<sup>18</sup> Furthermore, while pre-operative hormonal



manipulation causes atrophy of the endometrium, reduces the depth of the myometrium, and, thus, reduces the amount of bleeding during surgery, it may also increase the risk of uterine perforation or myometrial injury.<sup>9</sup>

The use of estrogen, medroxyprogesterone, and IUD insertion after surgery has generally been abandoned.<sup>9</sup> Similarly, postoperative therapy was not administered in this case. Most surgeons perform a follow-up hysteroscopy or hysterosalpingography examination one to four months after the operation. If the uterine cavity is found to be in satisfactory condition, patients are encouraged to attempt pregnancy.

The manoeuver of laparoscopic monitoring and transillumination makes operative hysteroscopy an even safer and more effective method in the treatment of uterine septa associated with recurrent pregnancy loss, and makes future vaginal delivery possible. In view of the limited cost and minimal inconvenience to the patients, surgical indications for the resection of uterine septa can be extended to include relief of severe primary dysmenorrhoea,<sup>19</sup> which can be present in about fifty percent of the population with uterine septa.

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