

## Study On Hysteroscopic Adhesiolysis Post Asherman's Syndrome and Their Fertility Outcomes

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**Abstract:** In this study, we evaluated the efficacy of hysteroscopic adhesiolysis in patients with severe Asherman's syndrome. In 30 patients with permanent severe adhesions, hysteroscopic treatment was performed. Twenty six patients were followed-up with a mean time of 6 months. Fifteen pregnancies were obtained in 12 patients and the outcomes were the following: two first trimester missed abortions, three second trimester fetal losses, one second trimester termination of pregnancy for multiple fetal abnormalities and nine live births in nine different patients. Pregnancy rate after treatment was 12/26 and live birth rate was 9/26. Hysteroscopic treatment of severe Asherman's syndrome appeared to be effective for the reconstruction of a functional uterine cavity with a 34.6% pregnancy rate. However, these pregnancies were at risk for haemorrhage with abnormal placentation.

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### I. Introduction

Asherman's syndrome is an acquired condition that refers to having scar tissue in the uterus or in the cervix. This scar tissue makes the walls of these organs stick together and reduces the size of the uterus. Asherman's syndrome is also known as intrauterine synechiae or uterine synechiae. The most common cause is dilatation and curettage (D&C) of a recently pregnant uterus. The incidence of intrauterine adhesions after one D&C was found to be 16% (mild lesions), after two and three procedures, the incidences were 14 and 32% respectively, and more than 50% were severe adhesions (Friedler *et al.*, 1993)<sup>1</sup>. Other causes are Scar tissue after a Cesarean section or from sutures used to stop hemorrhages, Endometriosis, Infections of the reproductive organs, Radiation treatment. Clinical symptoms include menstrual abnormalities such as hypo- or amenorrhoea, infertility and recurrent pregnancy loss (Klein and Garcia, 1973)<sup>2</sup>. Hysteroscopic approach has allowed rapid improvement in the diagnosis and treatment of total or partial uterine obstructions. The aim of this study was to evaluate the safety and efficacy of hysteroscopic adhesiolysis in the treatment of 31 consecutive patients with severe Asherman's syndrome.

### II. Materials and Methods

This study was undertaken from August 2017 to January 2018, at JYOTHI KENDRA (POPULATION HEALTH SERVICES INDIA LIMITED), Dhanbad which deals with family planning and fertility related issues. 30 patients underwent hysteroscopic treatment of intrauterine adhesions (IUA) at our centre. We reviewed and selected all patients with extensive firm adhesions, with agglutination of uterine walls. (Grade IV according to the European Society of Hysteroscopy; Wamsteker and De Block<sup>3</sup>, 1993).

#### INCLUSION CRITERIA

Thirty patients were selected according to these criteria who presented to us with symptoms of hypomenorrhoea, amenorrhoea, cramping pain, secondary infertility, spontaneous and recurrent abortion.

1. Age (range 26–44).
2. Parity was  $0.6 \pm 0.9$  (range 0–3).
3. PREVIOUS Caesarean sections
4. Previous uterine ruptures
5. PREVIOUS placenta accreta.
6. Past history of at least one D&C for elective abortion in the first trimester
7. D&C for missed abortion or incomplete abortion in the first trimester
8. D&C for post-partum bleeding

### EXCLUSION CRITERIA

- 1.PREVIOUS H/O MYOMECTOMY
- 2.PREVIOUS H/O POLYPECTOMY
- 3.TUBERCULOUS ENDOMETRITIS
- 4.RADIATION THERAPY FOR MALIGNANCY

Diagnosis was made by hysterosalpingography and confirmed by hysteroscopy in all cases. Hysteroscopy was performed under general or epidural anaesthesia in the early proliferative phase of the menstrual cycle in the patients who were menstruating. A 9mm hysteroscope equipped with an hysteroscopic monopolar knife was introduced into the blind reduced cavity, obtained after dilatation of the cervix by Hegar's dilators. Normal saline was used as distending medium. Treatment was performed by making several myometrial incisions 4 mm deep: two lateral incisions from the fundus to the isthmus on both sides and two transversal incisions of the fundus. Prophylactic antibiotics amoxicillin and clavulanic acid at the dose of 1.5 gin were given routinely at the induction of anaesthesia. No intrauterine contraceptive device was inserted.(San Fillipo and Fitzgerald<sup>4</sup>, 1982). Postoperative oestrogen therapy (oestradiol 4 mg daily) was given to all patients for 2 months. Postoperative hysterosalpingography was performed. Subsequent fertility was studied by follow up..

### III. Results

Thirty patients were selected according to the above criteria. Median age was 29 years (range 26–34). Mean parity was  $0.6 \pm 0.9$  (range 0–3). In the obstetric histories we found 4 patients with previous Caesarean sections, 2 with previous uterine ruptures and 3 cases with previous placenta accrete, 10 patients with a past history of at least one D&C for elective abortion in the first trimester ,5 patients with at least one D&C for missed abortion or incomplete abortion in the first trimester , 3 patients with D&C for post-partum bleeding.

The mean operating time for the initial procedure was  $34 \pm 8$  min, excluding dilatation time. All patients were discharged from the hospital on the day of surgery. A satisfactory result was observed after the initial procedure observed by the outpatient hysterosalpingography . In 19 patients out of 30 there were flimsy adhesions broken by hysteroscopy. In the 11 remaining patients, severe adhesion was present which was judiciously managed..

The mean follow time was 6months.4 patients were lost to follow up.Menstruation improved in all patients. Fifteen pregnancies were obtained in 12 patients and the outcomes were the following: two first trimester missed abortions, three second trimester fetal losses, a second trimester termination of pregnancy for multiple fetal abnormalities and nine live births in nine different patients. Pregnancy rate after treatment was 12/26 and live birth rate was 9/26.

.In nine patients with live births there were six vaginal deliveries at term and three Caesarean sections. One caesarean sections were performed for fetal distress, one was performed for past history of two Caesarean deliveries and the last one was for non progress of labour. Severe complications occurred in one case out of nine .The first case was a Caesarean hysterectomy for placenta accreta in a patient with a history of two previous Caesarean sections with a placenta accreta at the latest delivery. The patient did well after the procedure.. The placenta was abnormally adherent and was partially removed manually. Haemostasis was obtained by hypogastric arteries ligation and prophylactic B lynch and CHO sutures. The mother and baby had an uneventful postoperative period

### IV. Discussion

Severe intrauterine adhesions are difficult to treat, and even when a satisfying anatomical result is obtained, normal endometrial function is not guaranteed. Intrauterine adhesions can be divided by hysteroscopic scissors (Valle and Sciarra<sup>5</sup>, 1988) or laser treatment (Chapman and Chapman<sup>6</sup>, 1996). More recently an innovative technique involving hysteroscopic scissors has been reported: a 5 mm hysteroscope was introduced from the cervix to each cornua, converting the obliterated cavity into a uterine septum (McComb and Wagner<sup>7</sup>, 1997). Hysteroscopic resection with a monopolar probe is also efficient (Chen et al., 1997<sup>8</sup>; Protopapas et al., 1998<sup>9</sup>)Debate concerning the abdominal versus the hysteroscopic approach is still not resolved. (Reddy and Rock, 1997<sup>10</sup>)Repeated hysteroscopic procedures have also been described. (Chapman and Chapman<sup>6</sup>, 1996; Protopapas et al., 1998<sup>9</sup>).In this study we did not need a repeat procedure,but patients need to be counseled regarding need for a repeat procedure. Menses improved in all our patients.

Fertility after hysteroscopic treatment of severe Asherman's syndrome

literature	cases with live births
Valle and Sciarra <sup>5</sup> (1988)	31.9%
Barbot <sup>14</sup> (1994)	31.5%
Protopapas <sup>9</sup> et al. (1998)	28.7%
Our study	34.6%

In common with the other authors, we found that almost 50% of patients became pregnant and that almost one third had live births. Severe obstetric complications in subsequent pregnancies are described by many authors. Deaton *et al.* reported a spontaneous uterine rupture during pregnancy after hysteroscopic treatment of Asherman's syndrome complicated by a fundal perforation (Deaton *et al.*, 1989<sup>11</sup>). Friedman *et al.* described three severe complications in a series of 33 patients with mild to severe IUA (Friedman *et al.*, 1986<sup>12</sup>). Placenta accreta is the most common severe complication reported after the treatment of Intrauterine adhesion which was seen in this study too. Jewelewicz *et al.* found a rate of placenta accreta of 9% in a series of 137 term pregnancies following the treatment of 351 patients with IUA by laparotomy from 1948 to 1975 (Jewelewicz *et al.*, 1976<sup>13</sup>). In our series, concerning only severe IUA, one pregnancy out of nine with live births was complicated with placenta accrete. Hysteroscopic treatment of severe Asherman's syndrome appeared to be effective for the restoration of a functional uterine cavity. All patients achieved a normal uterine cavity and normal menses. The overall pregnancy rate after treatment was 40%. Live birth rate was 30%. However these pregnancies were at high risk abnormal placentation. Because risk factors for Intrauterine adhesions subsequent pregnancies should be managed appropriately in a tertiary care reproductive centre.

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