

# Clinical Observation of Hysteroscopy Combined with Uterine Artery Embolization in The Treatment of Scar Pregnancy in Cesarean Section

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## Abstract

**Objective:** To investigate the clinical effect of hysteroscopy combined with uterine artery embolization in the treatment of cesarean scar pregnancy.

**Methods:** 80 cases of cesarean scar pregnancy in our hospital from January 2016 to December 2019 were selected as the research object, and they were divided into two groups according to the random number table method. 40 cases in the control group were treated with hysteroscopy; 40 cases in the observation group were treated with hysteroscopy combined with uterine artery embolization. The clinical indexes, surgical effects and complications were compared between the two groups.

**Result:** The uterine recovery time and operation time in the control group were significantly longer than those in the observation group, and the intraoperative blood loss was significantly higher than that in the observation group ( $P < 0.05$ ); after treatment, the lesion diameter and blood  $\beta$  - hCG level of the two groups were decreased, and the lesion diameter of the observation group was smaller than that of the control group, and the blood  $\beta$ -HCG value of the observation group was lower than that of the control group, the difference was statistically significant ( $P < 0.05$ ); the complications in the control group were significantly lower than those in the control group. The incidence rate was higher than the observation group, the difference was statistically significant ( $P < 0.05$ ).

**Conclusion:** Hysteroscopy combined with uterine artery embolization in the treatment of cesarean scar pregnancy has significant curative effect, can significantly improve the clinical symptoms of patients, retain the fertility of patients, ensure the quality of life of patients after surgery, and fewer complications, high safety, worthy of clinical application.

**Keywords:** Hysteroscope; Uterine artery embolization; Cesarean scar pregnancy; Complications

## 1. Introduction

Cesarean scar pregnancy is a rare and dangerous pregnancy. It refers to that fertilized eggs and trophoblast cells are planted in the scar of previous cesarean section incision and wrapped in scar fiber tissue and uterine muscle fiber. Irregular vaginal bleeding or abdominal pain after menopause are the main clinical symptoms. Because of similar symptoms with abortion, there are no other specific symptoms, so patients are

often misdiagnosed as abortion, resulting in delay in the condition and missing the best treatment time [1-3]. In recent years, with the increase of cesarean section, the incidence rate of cesarean scar pregnancy is increasing. Patients often suffer from secondary complications such as secondary infection, severe bleeding and uterine perforation. In clinical treatment, it is often difficult to control the bleeding effectively and save the patient's life by removing the uterus, but the patient loses fertility and seriously affects the patient. Reproductive health and quality of life [4]. At present, most experts believe that the main cause of uterine scar formation and cesarean section scar is related to clinical. Studies have shown that early diagnosis and treatment of cesarean scar pregnancy patients, can significantly improve the patient's

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condition, and retain the fertility of patients [5]. Clinical treatment of cesarean scar pregnancy more programs, and the effect is different, therefore, looking for a positive and effective treatment plan is particularly important [6]. Based on this, this study discussed the clinical effect of hysteroscopy combined with uterine artery embolization in the treatment of cesarean scar pregnancy. The report is as follows.

## 2. Materials and Methods

### 2.1 General data

80 Patients with caesarean section of the scar pregnancy handled at our hospital from January 2016 to December 2019 were randomly split into two categories. There were 40 participants in the observation community, the age category was 18-42 years, the total age was  $(30.62 \pm 4.19)$  years, the interval between the last caesarean section and the second caesarean section was  $(6.05 \pm 1.15)$  years,  $(3.25 \pm 1.00)$  years,  $(3.43 \pm 1.02)$  and  $(1.39 \pm 0.32)$  years respectively. The mean age of the test community was  $(30.08 \pm 4.54)$  years, the period between the last caesarean segment and the last caesarean section was  $(3.22 \pm 1.20)$  years,  $(3.10 \pm 1.03)$  years,  $(3.10 \pm 1.03)$  years,  $(30.08 \pm 4.54)$  years,  $(3.22 \pm 1.20)$  years,  $(3.10 \pm 1.03)$  years,  $(3.10 \pm 1.03)$  years,  $(3.30 \pm 1.09)$ ,  $(3.30 \pm 1.09)$ ,  $(1.45 \pm 0.33)$ ,  $(1.45 \pm 0.33)$ ,  $(3.30 \pm 1.09)$ , and  $(1.45 \pm 0.33)$  years. This research was accepted by the Ethics Committee of our institution, and there was no substantial change in total results between the two groups ( $P > 0.05$ ).

### 2.2 Inclusion criteria

Inclusion criteria (1) in line with the diagnostic criteria of ultrasound in obstetrics and Gynecology [7], and confirmed by ultrasound examination; (2) having a history of cesarean section, and the lesion diameter is more than 10 mm; (3) signing the informed consent; (4) having good compliance, cooperating with this study.

Exclusion criteria: (1) mental disease, hematological disease, immune system disease and organic disease; (2) surgical contraindications; (3) severe drug allergy; (4) accompanied by massive uterine bleeding, or serious bleeding, anemia tendency; (5) preoperative MTX or curettage.

### 2.3 Treatment method

After admission, the patients underwent routine examinations such as heart, liver and kidney function, blood routine examination, blood coagulation function, electrocardiogram and chest X-ray. Patients in the control group were treated

with hysteroscopic surgery, and the patients were given compound anesthesia. The uterine cavity of patients was explored under hysteroscopy, with a depth of 8-10cm. The scar pregnancy lesions of cesarean section incision were removed under the supervision of abdominal ultrasound, and then checked by ultrasound. When the lesions were removed and there was no abnormal phenomenon in the uterus, electrode electrocoagulation was used to stop bleeding. Antibiotics were given intravenously 2 days after operation to prevent infection. For the patients with larger lesions, the balloon should be left in the uterine cavity after the lesion resection, which is usually pulled out about 24 hours, and then given oxytocin 10u. Patients in the research community were handled with hysteroscopy along with uterine artery embolisation. Hysteroscopy coupled with uterine artery embolization was performed to patients in the observational community. Patients have been put in supine condition for local anaesthesia. The proper femoral artery was the puncture site. The optical subtraction angiography technique was used for imaging. Since the lateral direction of the lesion was established, 50-75 gelatin sponge particles were used to embolize the uterine artery. Hysteroscopic surgery was performed within 72 hours after uterine artery embolization. The specific operation method was the same as that of the control group. The blood  $\beta$  - HCG value of all patients was reexamined 2 days after operation. 3ml blood from the median cubital vein of the patients was taken and the serum was separated by centrifugation. The blood  $\beta$ -HCG value was determined by chemiluminescence method.

### 2.4 Observation indicators

The clinical indexes of the two groups were compared, including uterine recovery time, operation time and intraoperative blood loss. The operation effects of the two groups were compared, including lesion diameter and blood  $\beta$ -HCG value. The complications, such as high fever, gastrointestinal reaction, intestinal pain, abnormal liver function and nausea and vomiting, were compared between the two groups.

### 2.5 Statistical method

The SPSS 18.0 framework was used for data processing. The estimate results were seen as " $\pm$ " and the t-test was used; the count results were represented as a percentage and the variance was statistically relevant ( $P < 0.05$ ).

## 3. Results

### 3.1 Clinical indicators

The uterine healing period and working time of the control group were longer than that of the

observation group and the intraoperative blood loss was greater than that of the observation group and the discrepancy was statistically important ( $P < 0.05$ ). See **Table 1**.

**Table 1. Comparison of clinical indexes between the two groups ( $\bar{x} \pm s$ )**

Group	uterine recovery time (d)	operation time (d)	intraoperative blood loss (ml)
Control group (n=40)	20.61±2.64	33.42±5.12	128.21±15.65
Observation group (n=40)	11.34±2.04	19.42±3.98	60.21±12.43
<i>t</i>	17.573	13.6654	21.519
<i>P</i>	0.000	0.000	0.000

### 3.2 Surgical effect

After therapy, the lesion diameter of both groups was reduced and the blood  $\beta$ -hCG of the observation group was higher than that of the

control group and the blood  $\beta$ -HCG of the observation group was greater than that of the control group, the disparity was statistically relevant ( $P < 0.05$ ). Oh, please, please see **Table 2**.

**Table 2. Comparison of operation effect between the two groups ( $\bar{x} \pm s$ )**

Group	time	the diameter of the lesions (mm)	$\beta$ -HCG (U/L)
Control group (n=40)	Before treatment	46.68±1.82	8770.33±440.34
	After treatment	35.45±1.43	6122.32±314.56
	<i>t</i>	30.686	30.948
	<i>P</i>	0.000	0.000
Observation group (n=40)	Before treatment	46.72±1.87	8769.55±453.67
	After treatment	29.76±1.02 <sup>①</sup>	4727.29±300.11 <sup>①</sup>
	<i>t</i>	50.357	47.000
	<i>P</i>	0.000	0.000

Note: Relative to the placebo group after medication, <sup>①</sup>  $P < 0.05$ .

### 3.3 Complications

The rate of problems in the test group was

greater than in the test group ( $P < 0.05$ ). See **Table 3**.

**Table 3. Comparison of complications in all categories**

Group	High fever	gastrointestinal reaction	intestinal pain	liver dysfunction	nausea and vomiting	Total
Control group (n=40)	2 (5.00)	0 (0.00)	1 (2.50)	1 (2.50)	6 (15.00)	4 (25.00)
Observation group (n=40)	0 (0.00)	1 (2.50)	0 (0.00)	0 (0.00)	1 (2.50)	2 (5.00)
$\chi^2$	-	-	-	-	-	6.275
<i>P</i>	-	-	-	-	-	0.012

## 4. Discussion

Cesarean scar pregnancy is a fatal way of pregnancy, once diagnosed, it should be treated immediately to terminate pregnancy [8]. At present, the main indexes of cesarean section are to reduce the amount of cesarean section and the amount of cesarean section. At present, the diagnosis of cesarean scar pregnancy is mainly based on imaging findings, lesion size, blood  $\beta$ -hCG, symptoms and clinical signs. The treatment

methods include surgical treatment, interventional treatment and conservative treatment. At present, there is no uniform standard treatment for cesarean scar pregnancy [11-12].

The findings revealed that the uterine healing period and working time of the control group were substantially longer than that of the observation group, and the intraoperative blood loss was substantially higher than that of the observation group. Following therapy, the lesion diameter of

both categories were decreased and the blood  $\beta$ -HCG value was slightly smaller than that of the control group. The frequency of complications in the control group was greater than in the observation group, suggesting that patients in the observation group with a higher risk of complications. Hysteroscopy associated with uterine artery embolization in the management of caesarean scar pregnancy has a major curing impact and may potentially decrease the frequency of postoperative complications. Hysteroscopy is a kind of minimally invasive fiberoptic endoscope used for intrauterine examination and treatment. It can enlarge the observation site, accurately and intuitively determine the scope, appearance, size and location of the lesion, and can carefully observe the tissue structure of the lesion surface. Taking materials or positioning curettage under direct vision greatly improves the examination of gynecological intrauterine lesions and hemorrhagic diseases [13-14]. However, hysteroscopic operation will quickly lead to problems such as inflammation and major bleeding, which would have a significant effect on patients' postoperative healing, which is not beneficial to patient forecasts. Embolization of the uterine artery is a popular form of care in obstetrics and gynaecology. It requires minimally intrusive equipment and super specific intubation of the uterine artery as part of television control, which will decrease the thickness of the lesion and obstruct the blood flow of the lesion in order to meet the treatment target. In comparison, this procedure has the benefits of a minor trauma, a rapid rehabilitation, fewer postoperative problems and a high degree of protection accepted by the medical personnel [15]. In this study, uterine artery embolization was used to provide a best operation time for clinicians. Uterine artery embolization can block the uterine artery blood flow and reduce the blood supply of the lesion. Methotrexate is a commonly used anti-metabolic drug in clinic, which can effectively inhibit and kill trophoblasts. Uterine artery embolization combined with intra-arterial injection of methotrexate can, on the one hand, block the uterine artery blood flow and reduce the blood supply of the lesion. In addition, it can effectively inhibit the growth of lesions and reduce the risk of rupture of pregnancy. According to the previous clinical experience, the best operation time is within 3 days after interventional operation. The main reason is that the embryo activity has been basically lost and the collateral circulation has not yet been established. At this time, the operation can significantly improve the success rate of operation and the confidence of patients. Then

choose hysteroscopic surgery for treatment, hysteroscopic surgery less trauma, less intraoperative blood loss, and in the process of operation using electrocoagulation hemostasis, significantly reduce the risk of secondary scar caused by surgical suture; in addition, hysteroscopic surgery can directly observe the situation of uterine cavity, clear the focus, and effectively reduce the incidence of excessive damage to the endometrium, missed curettage, missed suction and so on. Our hospital is more skilled in hysteroscopic surgery technology, combined with the rich experience of clinicians, can significantly boost the performance rate, reduce the occurrence of injuries, and facilitate early rehabilitation of patients.

### 5. Conclusion

To sum up, hysteroscopy coupled with uterine artery embolization in the treatment of caesarean scar pregnancy has a major curative effect, can dramatically improve the clinical effects of patients, preserve the vitality of patients, ensure the quality of life of patients after surgery, and minimize complications, high safety, deserving of clinical promotion and use.

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