The curative effect of fallopian tube interventional recanalization and ethiodode oil

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Abstract. Objective: To analyze the efficacy of fallopian tube interventional recanalization and ethiodized oil in treating fallopian tube obstruction. Methods: 84 patients were selected from August 2020 to August 2021. Patients were randomly divided into control group and observation group, with 42 patients in each group. The control group was treated by conventional uterine laparoscopic combined surgery, and the observation group adopted the method of tubal interventional recanalization combined with ethiodized oil. To compare the treatment effect of the two groups, the serum inflammatory factor levels before and after the treatment, and the postoperative recovery. Results: In terms of treatment effect, the total response rate was 95.24% higher than 71.43% in the control group, and P <0.05. In terms of serum inflammatory factor levels, there was no significant difference between the two groups before treatment, with P> 0.05; and IL-6 (64.02±12.52)ng/L, TNF-α (21.03±2.20) ng/L, respectively, lower than the control group (72.35±16.39) ng/L, (28.35±2.34)ng/L,P<0.05. In terms of postoperative recovery, the observation group had a postoperative pain score (2.02±0.41) Break up and get out of bed activity time (16.31±2.82) h, length of stay (2.31±0.82) d, lower than the control group (4.56±1.42) component, (24.42±5.47)h, (4.42±0.47) d, P<0.05. Conclusion: In the treatment of fallopian tube obstruction, the treatment method of fallopian tube interventional recanalization combined with ethylene iodized oil can improve the overall treatment efficiency, reduce the inflammation, improve the postoperative recovery, and the curative effect is more ideal.

Key words: Tubal interventional recanalization; ethylene iodine oil; tubal obstruction; efficacy.

In gynecological diseases, fallopian tube obstruction is a relatively common disease, but also is one of the important causes of infertility [1]. The occurrence of the disease is usually caused by the genital tract infection, causing inflammation of the internal genital organs. Generally after reproductive tract surgery, abortion, it is easy to be secondary to this disease, causing fallopian tube obstruction, and then cause infertility. At present, the incidence of the disease is relatively high, which has caused a serious impact on female individuals and their families[2]. In the past, although the surgical method combining hysteroscopy and laparoscopy can play a certain role, but the overall effect is not ideal, and it is difficult to effectively control the inflammatory response. With the development of interventional therapy technology, it can be used in fallopian tube obstruction, which can also be effective in inflammation control[3]. Based on this, 84 patients were selected from August 2020 to August 2021 to analyze the efficacy of fallopian tube interventional recanalization and ethiodized oil in the treatment of tubal obstruction.

1. Data and methods

1.1 General Information

Eighty-four patients with tubal obstruction, selected from August 2020 to August 2021, were randomly divided into control and observation groups of 42 patients in each group. In the control group, patients were 23 and 35 years, mean (28.46 ± 3.15), minimum, 1,8 years, mean (4.22 ± 1.05) years; in the observation group, 24,36 years, mean (28.51 ± 3.07), 2 and 9 years, average (4.31 ± 1.02) years. In the above indicators, the two groups were compared, with no significant difference, and P> 0.05.

Inclusion criteria: All met the diagnostic criteria for tubal obstruction, all showed infertility, all met the indications for surgery and anesthesia, the study was informed to the patient and his family, and was approved by the Medical Ethics Committee.

Exclusion criteria: patients with other serious gynecological diseases, patients with infectious diseases, patients with autoimmune deficiency diseases, and patients with contraindications to surgical anesthesia or interventional treatment.

1.2 Methods

1.2.1 The control group

The control group was treated by conventional uterine laparoscopic combined surgery. At 2-3 days after clean menstruation, tupingplasty was performed to treat the comorbidities. For distal tubal blockage, intrauterine laparoscopic intubation and dredging of the fallopian tube were performed. With hysteroscopic assistance, a hard catheter was implanted into the tubal opening, and a prearranged blue blue solution was injected into the hard catheter lumen during continuous propulsion. Dextran, gentamicin, dexamethasone, and chymotrypsin were routinely injected into the pelvis to prevent postoperative pelvic adhesions. After surgery, the conventional treatment of promoting blood circulation, removing blood stasis and anti-inflammation was taken.

1.2.2 Observation group

The observation group took the fallopian tube interventional recanalization combined with ethylene iodized oil. At 3-7 days after clean menstruation, routine blood test routine, and iodine allergy test, elective surgery. The patient took the lithotomy position and lay supine on the radiation bed. After gynecological examination, a DBH-double balloon tube was inserted into the uterine cavity. The contrast agent was injected, and the uterine cavity was filled. It then slides into the 0.0535 I n guidewire. After reaching the position, the guidewire was removed and the contrast agent was injected through the catheter. Patients who remain blocked after selective salpingography will then use a 3F catheter, a 0.015In guide wire, delivered to the tubal along a 5F catheter, and salpingalization using a 0.015In guide wire. After surgery, 20ml of normal saline, 80,000 u of gentamicin, dexamethasone 4mg, and 5mg of chymotrypsin were used for intrauterine injection. Finally, 10ml of ethylene iodine oil was used and injected in the uterine cavity and fallopian tube.

1.3 Evaluation indicators

To compare the treatment effect of the two groups, the serum inflammatory factor levels before and after the treatment, and the postoperative recovery. The evaluation criteria of treatment effect are: obvious effect: one year after treatment, the bilateral fallopian tubes are unobstructed, and the adverse symptoms and signs disappear; effective: one year after treatment, the fallopian tube is partially unblocked but not completely unblocked, and the adverse symptoms and signs are significantly relieved; ineffective: one year after treatment, there is still fallopian tube blockage or obvious inflammatory reaction. The evaluation indexes of serum factor levels included IL-6, TNF- α. Evaluation indicators of postoperative recovery include postoperative pain score, time of ambulation, and length of hospital stay, in which postoperative pain was measured on the VAS scale, and higher scores indicated stronger pain.

1.4 Statistical treatment

Data is processed by SPSS20.0 software to represent count and measurement data respectively in terms of number or rate, average and mean ± standard deviation, and use x2, t tested separately, as $P < 0.05$, representing a significant difference.

2. Results

2.1 Comparison of the two groups in terms of treatment effect

In terms of the treatment effect, the total response rate in the observation group was 95.24% higher than the 71.43% in the control group, with $P < 0.05$.

Table 1. Comparison between the two groups in terms of treatment effect [n (%)]

group	Example number	excellence	valid	of no avail	Total effective
observation group	42	18(42.86)	22(52.38)	2(4.76)	40(95.24)
control group	42	13(30.95)	17(40.48)	12(28.57)	30(71.43)
x^2		0.818	0.766	6.943	6.943
P		0.366	0.382	0.008	0.008

2.2 Comparison between the two groups in terms of serum factor levels

In terms of serum inflammatory factors level, there was no significant difference between the two groups before treatment, with $P > 0.05$; and IL-6 (64.02±12.52)ng/L, TNF-α(21.03±2.20) ng/L, respectively, lower than the control group (72.35±16.39)ng/L, (28.35±2.34)ng/L, $P < 0.05$.

Table 2. Comparison between the two groups in terms of serum factor levels (± s) $\overline{x}$

group	Example number	IL-6(ng/L)		TNF-α(ng/L)	
		pretherapy	post-treatment	pretherapy	post-treatment
observation group	42	76.52±24.23	64.02±12.52	32.21±3.45	21.03±2.20
control group	42	76.47±24.32	72.35±16.39	32.24±3.30	28.35±2.34
t		0.009	2.617	0.041	14.770
P		0.992	0.011	0.968	0.000

2.3 Comparison between the two groups regarding the postoperative recovery status

In terms of postoperative recovery, the observation group had a postoperative pain score (2.02±0.41) Break up and get out of bed activity time (16.31±2.82)h, length of stay (2.31±0.82) d, lower than the control group (4.56±1.42) component, (24.42±5.47)h, (4.42±0.47)d, P < 0.05.

Table 3. Comparison of the two groups on postoperative recovery (± s) $\overline{x}$

group	Example number	Postoperative pain (points)	Activity time (h)	length of stay (d)
observation group	42	2.02±0.41	16.31±2.82	2.31±0.82
control group	42	4.56±1.42	24.42±5.47	4.42±0.47
t		11.137	8.540	14.468
P		0.000	0.000	0.000

3. Discussion

In today's society, the incidence of various sexual diseases has gradually increased, and the rate of medical abortion and induced abortion has also increased. Therefore, the incidence of tubal obstruction has also increased, and has become an important cause of female infertility[4]. In the treatment of this disease, the use of fallopian tube interventional recanalization can achieve very good results. This technique integrates the traditional uterosalpingography and the modern radiation intervention technology, using the mechanical motion of the guide wire to release and separate the lumen of the tubal tube where the adhesion occurs [5]. At the same time, after the microcatheter direct drug injection treatment, the effect is better than the traditional rectal and intrauterine drug administration [6].

The use of fallopian tube interventional recanalization combined with ethiodooil can improve the overall efficiency of treatment, and also help to increase the success rate of treatment [7]. Mainly because ethyl iodized oil has a low oil viscosity, it is easier to advance in the circuitous and small tubal lumen, which can make the inner membrane surface of the fallopian tube just through the guide wire separation to maintain lubrication, to avoid the occurrence of readhesion. At the same time, the fallopian tube can promote the cilium movement, so that it recovers smooth, improve the function of egg delivery, so that patients can restore the normal conception ability[8]. Therefore, this method has a high clinical application and promotion value.

In conclusion, in the treatment of fallopian tube obstruction, the treatment method of fallopian tube interventional recanalization combined with ethylene iodized oil can improve the overall treatment efficiency, reduce the inflammatory response, improve the postoperative recovery, and the curative effect is more ideal.

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