

Comparative Analysis of Laparoscopy Through Single Umbilical Hole and Traditional Laparoscopy

Wenzhi Wang*

Shaanxi People's Hospital, Xi'an 710000, China.

Abstract: Objective: To explore the standardized application effect of laparoscopy in gynecological clinical medical treatment. Methods: The experiment was carried out in patients admitted to gynecology department in a hospital in China from October 2021 to October 2022. 30 patients were selected as the research subject by random sampling, and 30 patients were divided into two experimental groups by using the digital random table. They were the experimental group and the control group. There were 15 patients in both experimental groups. The control group was treated by conventional Laparoscopy, The experimental group was treated with single hole Laparoscopy via umbilical cord. Result: Through experimental research, the surgical time of patients in the experimental group was longer than that of the control group, but the postoperative exhaust time and surgical water loss scores of patients in this experimental group were better than those in the conventional group, and $P < 0.05$; The probability of postoperative complications in the experimental group patients will be significantly lower than that in the control group patients, $P < 0.05$. Conclusion: Compared with traditional Laparoscopy, transumbilical single hole Laparoscopy has a better diagnosis and treatment effect, which can further alleviate the pain of patients and enable them to recover as soon as possible.

Keywords: Laparoscopy; Gynecology; Clinical Medical Treatment; Standardization; Application Measures

Introduction

Ectopic pregnancy, Uterine fibroid and other benign gynecological diseases are particularly common among women of gestational age. The focus can be removed by surgery to cure the disease. However, surgery can cause significant trauma to patients and even affect their physical and mental health. There may be residual scar tissue after surgery, making the psychological and physiological stress reactions of patients increasingly severe. And with the improvement of laparoscopic technology, the scar formed by single hole Laparoscopy will be smaller, and it can also meet the needs of patients for beauty and other aspects, and reduce the pain of patients. In this regard, the experiment will take 30 patients with benign gynecological diseases as experimental observation objects, and compare the efficacy of single hole Laparoscopy and traditional Laparoscopy. The current report is as follows.

1. Experimental Data and Methods

1.1 Experimental data

In order to deeply explore the effectiveness of standardized application of laparoscopy in gynecological clinical medical treatment, this article conducted an experiment on patients admitted to a certain hospital in China from October 2021 to October 2022. Thirty patients were randomly selected and divided into two experimental groups based on the principles of consent, informed consent, and voluntary participation. There were 15 patients in each experimental group. The patients in the experimental group were 22 years old at the minimum, 48 years old at the maximum, and the overall average age was 37 years old. There were 7 cases of Ectopic pregnancy, 3 cases of Uterine fibroid, and 5 cases of Ovarian cyst; The patients in

the control group were at least 21 years old and at most 50 years old. The overall average age was 38 years old. There were 5 cases of Ectopic pregnancy, 5 cases of Uterine fibroid, and 5 cases of Ovarian cyst. The basic data of the two experimental groups were comparable, and the statistical validation results were all $P>0.05$.

1.2 Experimental Methods

In the control group, 15 patients were treated with traditional Laparoscopy, kept lying flat or lithotomy position, fully disinfected the skin at the incision position, and underwent general anesthesia Tracheal intubation, conventional towel laying, vertical or horizontal incision at its upper edge, and pneumoperitoneum was punctured into it to construct an artificial 12mmHg. Three hole method or four hole method was used to place the laparoscopic instrument in it to determine the location of the intracavitary lesions, Dig out Uterine fibroid, remove the uterus, etc., enter the vagina after the operation, remove the focus tissue, and suture the tissue at the stump. The patients in the experimental group need to carry out the single hole Laparoscopy through the umbilical cord, fully disinfect based on the conventional surgical treatment, make a longitudinal incision in the middle of the umbilical cord, gradually cut the skin, expose the peritoneum, protect the blood vessels and nerves, and establish the pneumoperitoneum pressure of 12mmHg in an artificial way. Place the instrument in a single hole tube, determine the location of the lesion, and perform surgical procedures such as excision to suture the wound. Remove the lesion tissue from the patient's vagina and suture the stump. Other patients need to remove the lesion tissue through a single hole channel and suture the umbilical incision. There is no active bleeding in the abdominal cavity, and withdraw the endoscopic instrument. Absorbable sutures should be used to suture the peritoneal layer, etc.

1.3 Observation indicators

Observing the actual surgical treatment situation of patients and setting reasonable experimental indicators, which will include multiple contents such as postoperative exhaust time and surgical blood loss. Evaluate the patient's incision pain at 2 hours, 12 hours, and 24 hours after surgery. Using the micro visual simulation scoring method, the stronger the pain, the higher the score. Observe whether the patient will have a series of complications such as infection and scar residue after surgery.

2. Results

2.1 Surgical treatment of patients in two groups

Table 1 Comparison of surgical treatment between two groups of patients

group	Number of cases	Surgical blood loss (ml)	Postoperative exhaust time (h)	Surgical time consumption (min)	Hospitalization treatment time (d)
experimental group	15	96.5±10.7	24.5±9.3	98.4±12.5	5.5±1.1
control group	15	122.4±11.6	34.2±1.9	81.2±12.1	8.7±0.8
t	-	6.819	6.131	7.022	7.102
P	-	<0.05	<0.05	<0.05	<0.05

2.2 VAS score for postoperative pain in two groups of patients

Table 2 Comparison of postoperative pain VAS scores between two groups of patients

group	Number of cases	postoperative2h	postoperative12h	postoperative24h
experimental group	15	5.4±1.0	4.3±0.5	3.8±0.3
control group	15	6.5±0.9	5.2±0.2	4.8±0.6
t		8.465	9.011	6.037
P		<0.05	<0.05	<0.05

2.3 Postoperative complications in two groups of patients

Table 3 Comparison of postoperative complications between two groups of patients

group	Number of cases	infect	Scar residue	malunion	Total occurrence rate
experimental group	15	1 (6.67%)	1 (6.67%)	0	2 (13.33%)
control group	15	1 (6.67%)	2 (13.33%)	1 (6.67%)	3 (20%)
χ^2					8.052
P					<0.05

3. Discussion

Among married women, the incidence rate of Uterine fibroid, Ovarian cyst, etc. is high. If there is no timely intervention for their disease, it is easy to make their condition become more and more serious, and even endanger the patient's own life. The operation form of Laparoscopy used in the past will be relatively simple, which can accurately locate the focus, reduce the time spent in determining the focus during the operation, and prevent patients from being exposed in a large range during the operation. Its treatment effect will be better, but its postoperative incision is extremely easy to leave scars. Moreover, the four hole method and three hole method generally require multiple operation channels, which has a serious impact on the postoperative recovery of patients. Single hole Laparoscopy is a new type of operation under the background of the continuous development of laparoscopic technology. All operations can be completed with only one operation channel during the operation, avoiding multiple incisions, effectively reducing the pain of patients and accelerating the rehabilitation process of patients. This study observed the control group and found that the study group had lower surgical blood loss, postoperative exhaust time, hospitalization time, and pain VAS score than the conventional group ($P < 0.05$).

4. Conclusion

To sum up, the standardized application of laparoscopy in gynecological clinical medical treatment can provide more excellent services for patients, and the efficacy of umbilical single hole Laparoscopy will be significant, with strong safety. The postoperative exhaust time will be relatively fast, which can effectively shorten the hospitalization time of patients. It is currently the preferred treatment method for gynecological benign diseases in clinical practice in China, reducing the amount of bleeding during surgery and accelerating the recovery speed of the patient's body system to prevent the formation of various postoperative complications. At the same time, comprehensively improving the clinical treatment effect highlights the value of standardized application of laparoscopy in gynecological clinical medical treatment.

References

- [1] Li J, et al. Laparoscopy and laparotomy in the treatment of gynecological acute abdomen. *Contemporary Medicine*, 2021.
- [2] Zhang X. et al. Clinical evaluation and safety of Laparoscopy for Ectopic pregnancy. *Research on Women's Health at Home and Abroad*, 2019.
- [3] Dai SF, Hou T. The efficacy and safety of single port Laparoscopy in the treatment of gynecological benign lesions. *Shanxi Medical Journal*, 2019.
- [4] Liu DC, Wang XS. The clinical effect of Laparoscopy for cervical cancer and its impact on quality of life. *Genomics and Applied Biology*, 2018.
- [5] Wang J, Yu DP. Clinical analysis of Laparoscopy and laparotomy for gynecological acute abdomen. *Practical Medicine in China*, 2018.