

The curative effect analysis and nursing measures of the transvaginal myomectomy and transabdominal myomectomy

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Abstract: To analyze the curative effects of the transvaginal myomectomy (TVM) and the traditional transabdominal myomectomy (TAM). The group with traditional TAM received routine preoperative nursing guidance and postoperative care. While the group with TVM received preoperative strengthened psychological care, vaginal preparation and postoperative strengthened vagina nursing, paying attention to the prevention and treatment of complications, and maintaining effective pelvic draining and other nursing measures. After that, the statistical processing and analysis were used to compared the intraoperative blood loss, operating time, postoperative infusion time, hospitalization time, postoperative eating, postoperative ambulation, the usage rate of postoperative analgesic, postoperative morbidity and postoperative complications between the two groups Comparison between TVM group and TAM group showed that the difference of the operating time, postoperative infusion time, hospitalization time, postoperative eating, postoperative ambulation, the usage rate of postoperative analgesic, postoperative morbidity and postoperative complications between the two groups were statistically significant ($P < 0.05$). While the difference of intraoperative blood loss between the two groups were not statistically significant ($P > 0.05$). The operating time in TVM group was shorter than TAM group; the postoperative eating, postoperative ambulation were earlier than the TAM group; the duration of postoperative transfusion and hospitalization in TVM were shorter than the TVM group; and the usage rate of postoperative analgesic and postoperative morbidity and complications in TVM group were less than the TAM group. TVM have the advantages of minimal invasion, quick recovery, less pain, shorter hospitalization duration and notable curative effect etc. Strengthening nursing care is the key to the success of treatment.

Keywords: Transvaginal, Transabdominal surgery, Myomectomy, nursing measures.

INTRODUCTION

As a common benign tumor in female genital organ, as well as one of the most common tumor in the human body, fibroid is mainly cause by the proliferation of uterine smooth muscle cells. Among which, a small amount of fibrous connective tissues exist as a supporting tissue, so it is called uterine leiomyoma, with fibroids for short. Its main clinical symptoms are excessive menstruation, abdominal mass or urination, defecation difficulties, and even appear anemia, abdominal pain, infertility and recurrent abortion and other serious symptoms, which seriously affect the quality of life of patients (Sabry and Al-Hendy, 2012; Kim *et al.*, 2013). In recent years, with the enhancement of the awareness of women's health care, the proportion of myomectomy is also increasing. Myomectomy including various surgery programs, but there is no consensus on the treatment effect (Tinelli *et al.*, 2012). Transvaginal myomectomy (TVM) is a new type of operation through physical vaginal to eliminate uterine fibroids (Chen *et al.*, 2010), with the anatomical physiology characteristics of uterus, vagina connected with the outside world, to carry out the hysterectomy in the vagina, which have the advantages of no abdominal scars, less abdominal interference, mild postoperative

pain, faster recovery and less complications etc., also it can retain the fertility and physiological function of the patients. The clinical efficacy and perioperative care of patients with TVM in our hospital from January 2012 have begun to study so as to compare and analyze the curative effect and nursing measures of transvaginal myomectomy and abdominal myomectomy. Now it is reported as follows.

CLINICAL INFORMATION

52 cases (30 cases with birth demand) undergoing TVM from January 2012 to December 2013 were regarded as the TVM group. And 48 cases (21 cases with birth demand) during the same period undergoing TAM were regarded as the TAM group. All patients in the two groups did not develop diseases in the heart, lung, liver, kidney and others diseases and they were all married. Colposcopy examination, endocervical curettage and liquid-based cytology test (LCT) were used to examine whether there exist malignant lesions in cervical and endometrial shedding tissues; gynecological examination and ultrasonic inspection were used to check the muscular tumor in uterus. The difference of the general information in the two groups were not significantly ($P > 0.05$), which were comparable.

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CURATIVE EFFECT

Evaluation method of curative effect

The intraoperative blood loss, operating time, the duration of postoperative infusion, hospitalization time, postoperative eating, postoperative ambulation, the usage rate of postoperative analgesic, postoperative morbidity and postoperative complications between the two groups were evaluated. The results were recorded by the appointed nurses. The data in the two groups were expressed by the ($\bar{x} \pm s$) and percentage. SPSS11.5 software was used for statistical processing. Measurement data was tested by the t Test and counting data was detected with χ^2 . $P < 0.05$ meant that the difference was statistically significant.

Evaluation indexes

(1) Intraoperative blood loss (mL): The volume in the aspirator subtracted the volume of flushing fluid; (2) postoperative pains: various painkillers and methods were used for operative pains; (3) postoperative morbidity: the 24h-postoperative temperature in the patients were more than 38 °C in consecutive twice with 4 h intervals.

The curative effects of two different surgical procedures were shown in table 1.

As shown in table 1 there was no significant difference in the intraoperative blood loss between the two groups ($P > 0.05$); the difference of the various indexes of operating time and postoperative recovery situation between the two groups were all significant ($P < 0.05$ or $P < 0.01$). The indexes like operating time and postoperative recovery situation in TVM group were all better than that in the TAM group.

The postoperative complications of the two groups with different operation methods

In TAM group, there were 6 cases with abdominal distention and symptoms alleviated after the glycerine enema inserted into the anus; 1 case had intestinal obstruction, and cured by the Traditional Chinese Medicine (TCM); 2 cases had incision induration and inflammation reactions, and cured after therapy; 2 cases had urinary retention and 1 case urinary tract infection, and all of them were cured by treatment. In the TVM group, there were 5 cases with light nausea and vomiting, which didn't need special treatment; 8 cases had postoperative vaginal bleeding, and cured by the corresponding treatments such as anti-infection, hemostasis, promoting uterine contraction and other symptomatic treatments, without severe complications or infections.

CURATIVE EFFECT ANALYSIS

The analysis of postoperative eating in different operative methods

The table 1 showed that there were significant differences in the postoperative eating time. The postoperative eating time in TVM group was (19.29 ± 5.38) h. The intervention of pelvic cavity and gastrointestinal tract was less in the TVM group, since it is through vagina (a natural physical tract), rather than the abdomen (Zhang *et al.*, 2005). Therefore, there was no symptom of gastrointestinal tract, with early exhaust from the anus. Since the patients in TVM group had received operation knowledge, which was effective to encourage patients to eat early. Then patients started to eat early cause they would feel hungry in 6-8 h after operation. In the TAM group, there were 6 cases with abdominal distention, so glycerine enema had to be inserted in the anus to help exhaust, which needed a longer time. In addition, the precondition for patients to eat was the anus exhaust. Therefore, the time of TAM group started to eat were (31.12 ± 6.77) h after operation. The postoperative eating time in TAM was shorter than that in the TVM group, and the duration time of postoperative transfusion was longer than that in the TAM group.

The analysis of usage rates of postoperative analgesic drugs and postoperative ambulation in the two groups

With the development of the society and the improvement of people living standard, more and more patients demanded comfortable nursing environment. In the index to evaluate the comfort degree of patients after operation, the time for getting down from bed was one of the indexes to evaluate the comfortableness. The earlier the patients started to get down from the bed, the less intestinal adhesion and other complications they would develop. All the patients in the two groups received combined spinal and epidural analgesia (CSEA). Since the operation was carried out through the natural physical tract, there was little intervention on the gastrointestinal tract. There were only 5 cases with mild nausea and vomiting without the need of special treatment in the TVM group, since the patients had received preoperative education. While patients in the TAM suffered from a larger surgery trauma, and most of them refused to get off the bed because of limp and numb in the legs and waist and pain in the wound. The comparison of the postoperative analgesic usage rate between the two operations was significantly different ($P < 0.05$). In addition, the postoperative transfusion treatment and placing the drainage tube would limit the comfort degree of getting off the bed and reduce the self-care ability of patients. Therefore, the comparison of the time to get off the bed after operation in different operative methods was significant difference, $P < 0.01$.

The analysis of postoperative morbidity in the two groups

Table 1 showed that there was significant difference in the postoperative morbidity rate. There is 1 case with fever in TVM group and 11 cases with fever in TAM group. The

Table 1: The comparison of the curative effect between the two groups (x±s, %)

	Intraoperative blood loss (mL)	Operating time (min)	Postoperative eating time (h)	Hospitalization time (d)	Post-operative ambulation time (h)	Post-operative transfusion time (d)	Usage rate of postoperative analgesic drug (%)	Post-operative morbidity rate (%)
52 cases with TVM	66.31±30.60	60.12±17.81	19.29±5.38	4.18±0.81	15.93±5.58	3.21±0.31	7.69	1 . 92
48 cases with TAM	75.02±41.52	83.90±28.23	31.12±6.77	6.88±1.25	32.7±7.72	5.45±1.52	82.76	22 . 92
P	P > 0.05	P < 0.05	P < 0.01	P < 0.05	P < 0.01	P < 0.05	P < 0.05	P < 0.01

comparison difference was significant (P<0.01).

Different postoperative complications in different operation methods

There was no patients with urinary retention and urinary tract infections in the TVM group. While there occurred 2 cases with urinary retention in the TAM group. One was able to urinate on his/her own after hot compress and abdominal massage; the other one was able to urinate only after 72 h of removing the urethral catheter. And there was 1 case with urinary tract infection, with symptom of syndrome of urinary irritation appeared. The symptom turned better after diuretic therapy by drinking more water after being encouraged to drink more water.

The larger surgical trauma, higher analgesic usage rates and later postoperative ambulation time and other factors would affect the recovery of gastrointestinal functions in the TAM group. There were 6 cases with postoperative abdominal distention, alleviated by the glycerine enema inserted into the anus; and 1 case with intestinal obstruction, cured by TCM. The operation in the TVM group was through the vagina (a natural physical tract) instead of the abdomen. The pelvic cavity and gastrointestinal tract were rather stable with little interference. There were 5 cases with mild nausea and vomiting in TAM group, which did not need special treatment. And there were no cases with abdominal distension or intestinal obstruction.

There were 2 cases with swelling reaction in TAM group, turned better after treatment. There were 8 cases with vaginal bleeding after surgery in the TVM group, recovered after the corresponding treatments of anti-infection, hemostasis, promoting uterine contraction.

The analysis of hospitalization in the two groups

Table 1 showed that there was a significant difference of hospitalization time between the two groups. The patients suffered a light burden because of the smaller trauma, less drugs, quick recovery, shorter-term hospitalization in the TVM group. Patients in the TAM group suffered a long abdominal incision, larger trauma and slow recovery, therefore the hospitalization in the TAM group was longer than the TVM group.

NURSING

Preoperative nursing

The TAM group: (1) Psychological nursing: most patients suffered from fear because of the large surgical trauma, scars on the abdominal wall, and slow postoperative recovery. So it was necessary to tell the patients about the treatment course briefly and let them to cooperate with the medical staff; (2) Routine bowel preparation: Eating non-slag and semi-liquid food during the 3 days before operation, taking orally 125 ml 20% mannitol 1 d before operation so as to evacuate the bowels and pneumatosis in the intestines. For those who were invalid to oral mannite, they should take 500-1000 ml 0.2% soapy water to clean the intestines in the evening before the operation day and in the morning on the operation day, and food and water was prohibited in 22:00 before the operation day; (3) Preoperative skin preparation: the conventional abdominal skins were prepared; (4) Indwelling catheter 30 min before operation.

The TVM group: (1) Psychological nursing: since the low population of TVM clinically, most patients suffered from pressure, worrying that the operation would fail. The nurses in charge should take one-on-one communicate with the patients and their family members to make a nursing plan according to their receptivity level, education level, family background and to evaluate their demand and receptivity. The signs, symptoms and complications of uterine fibroids should be noted to the patients and their families, as well as the features and advantages of the TVM which was an ideal operation to retain the reproductive function, without leaving scars on the abdominal wall. The operation process and how to cooperate with the medical staff should be also noted. What's more, the successful case could let them known. Nurses should know the patients need, deal with patients worries, communicate and educate the them according to patients' own conditions to make them cooperate with the operation and nursing process (Lin *et al.*, 2013). (2) Vaginal preparation: 3~7 d after menstruation was the appropriate time to choose the operation. The vaginal preparation should be strictly done to keep the vagina clean, and drugs should be reasonably used to prevent vahina from the retrograde infection and incisional infection, which were the guaranty of TVM success. The vaginae of the patients should be cleaned with the original iodine liquid twice a day, especially the fornix region and

cervical orifice, fully lubricating the bivalve speculum tenderly without harming the vaginal and the cervical mucus. The patients privacy should be protected. (3) Bowel preparation: it should be further strengthened based on the convention. The patients were instructed to eat digestible non-slag and semi-liquid food 3 d before the operation. Patients should take orally 125ml mannite one day before the operation and water was prohibited 12h before operation. Their intestines should be fully cleaned by 500-1000 ml 0.2% soap water (with the temperate of 39°C ~ 41°C) with the depth of 7-10cm. (4) Preoperative skin preparation: the region from the up edge of the pubic mound and down to the anus including the both sides to the 1/3 region of the thigh, pubic hair should be shaved and washed with soap.

Postoperative nursing

The TAM group: (1) Patients after operation was lying on the back without a pillow. After 6 h they were helped to lying on the semi-fowler's position which contributed to the breath and discharge of the secretion and reduced the complications. (2) The vital signs of patients should be monitored intensively to observe the seepage and pain. (3) Asking the anus exhaust condition, the patients diet could be changed from the liquid to semi-fluid and full diet after the anus exhaust; (4) The patients were assisted to change positions on bed or do some bed activities and encouraged to do off-bed activities as early as possible so as to promote the intestine peristalsis which could reduce abdominal distention and prevent from the abdominal viscera adhesion and lower limb vein inflammation, etc; (5) Removal of catheter according to the condition of anesthesia and intraoperation in 1-3 d after operation.

The TVM group should strengthen vaginal care and attach great importance to the prevention and cure of complications and effective pelvic drainage (Liu *et al.*, 2006). The common complications of TVM were vaginal bleeding, perineal incision infection, undesirable healing and urinary tract infection. The broken blood vessels of fibroids cavity edge, uterine incision, cervical fascia wound, vaginal mucous membrane incision and so on were likely to bleed, which should pay attention to prevent from postoperative bleeding. (1) The patient's vital signs within 24h should be closely observed, such as the change of body temperature, pulse beating, respiration, blood pressure and blood oxygen saturation, monitoring every 30min, When the indexes were stable, it could changed to monitor every 6h for three consecutive days. (2) Paying attention to the vaginal bleeding and pelvic drainage liquid volume. If it occurred a large amount of drainage liquid in a short time with bright color, which should be alert to intraperitoneal hemorrhage. (3) The vagina washing was prohibited so as to keep the perineum clean and dry. Perineum was scrubbed with a cotton ball dip iodine volts in the morning and evening every day.

The character of vaginal secretion should be observed about whether there was stink or purulence. (4) The patients could eat liquid food after 6h abrosia, but with multiple meals with small amount for each. Patients could eat high-calorie, high-protein, high-vitamin food only after the anus exhaust. Also they could eat a little more vegetable with rough fiber and fresh fruit, but cold or hot food must be prohibited to prevent from the diarrhea and constipation. The patients who did not defecate in three days after operation could take orally 30ml liquid paraffin to make defecate soft. And the vulva and the skin around the anus should be cleaned after defecate. (5) The catheter should be fixed and kept unobstructed during the operation. The color, feature and amount of the urine should be observed. The patients should be guided to drink more water and urinate more after removing the catheter so as to restore bladder function as soon as possible (Sabry M *et al.*, 2012; Tinelli A *et al.*, 2012; Zhang J *et al.*, 2005).

CONCLUSION

With the progress of the society and improvement of people's living standard, patients are paying more and more attention to their own living quality with the requirements of the cure of disease as well as the fully maintain of organ function. The practice has proved that TVM is an ideal minimally invasive surgery. The biggest advantage of it is that this operation has taken the advantage of vagina (the physical channel) instead of the abdomen to do operation without leaving scars on the abdomen, which not only keep the complete of reproductive organ, but also maintain most physiological functions of the uterus as well as the completeness of the pelvic anatomy, without affecting the postoperative sexual activity. What is more, the fertility is maintained. The key points to a successful treatment is strengthening preoperative psychological nursing and vaginal preparation, strengthening postoperative vaginal care, prevention of complications, maintaining effective pelvic drainage and other targeted high quality nursing care..

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