

Original Article

The perioperative and convalescence nursing of 5 cases of Monti ileovesicostomy

Li Ma*, Ling Liu*, Hong Shen, Dan Dan, Li Wang, Yu-Han Deng

West China Hospital, Sichuan University, Chengdu, China. *Equal contributors.

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Abstract: The main indications of Monti ileovesicostomy is urinary incontinence and urethral injury. Thus, it's very significant for the patients to relieve the vice effects of Monti ileovesicostomy. The aim of this study is to investigate the perioperative nursing care and methods to improve the quality of life in Monti ileovesicostomy. In this study, 5 patients received Monti ileovesicostomy in our department since 2009, each patient was provided with well-designed perioperative nursing care including physical and psychological nursing, care of complications, health education, family rehabilitation guidance, and the quality of life for each patient was followed up after the operation. The results indicated that all of 5 patients recovered successfully Without bloating, vomiting, and severe bleeding; In one year follow-up, 5 patients didn't suffer colostomy narrowing, blockage or dermatitis; 5 patients' satisfaction had been obviously improved in the anxiety status, social function and sexual function. In conclusion, the quality of life can be improved for patients who have to receive the treatment of Monti ileovesicostomy with professional perioperative nursing, health education and rehabilitation guidance.

Keywords: Monti ileovesicostomy, perioperative, nursing

Introduction

Monti ileovesicostomy is a new surgical method which is named after the doctor who invented it [1, 2]. The main indications of Monti ileovesicostomy is urinary incontinence and urethral injury. This surgery create an intermittent catheterization channel through abdominal wall which enables the receiver to be relieved from using diapers, indwelling catheter or suprapubic bladder fistula. Our department has completed five cases with this surgery since 2009. We have explored the perioperative nursing care about this surgery and the way to improve the quality of life. We have obtained some achievements and now report them below.

Materials and methods

The clinical data of patients undergoing Monti ileovesicostomy

Five patients were included in this study. The diagnosis, sex, age, surgery methods and pre-operative micturition form were illustrated in **Table 1**.

Surgical method

Key steps of Monti ileovesicostomy: Take 3~5 cm long segment of ileum with adequate blood supply, detubularize the isolated ileal segment along its antimesenteric border, then suture the intestinal piece along its horizontal axis to form a longer and smaller intestinal tube (Monti-segment). Anastomosis one end of Monti-segment with the left side of bladder wall using submucosal tunnel technique, pull the opposite end of Monti-segment out of the skin and fix it with subcutaneous sutures. All the patients recovered successfully without any postoperative complication, the average hospital stay time was 26.6 days.

Psychological nursing

All 5 cases were suffering from the diseases before the admission. Patients suffered from physical, mental and social problems brought on by abnormal urination. Moreover, the safety of the patients' lives was threatened due to urinary infections. To solve these problems, our research made some appropriate psychological

Nursing for Monti ileovesicostomy

Table 1. The basic information of patients undergoing Monti ileovesicostomy

No.	Diagnosis	Sex	Age (y)	Surgery	Preoperative micturition form
1	Urethrovaginal fistula Vesicovaginal fistula	Female	21	The Monti technique + Vaginoplasty	Urine leakage to vagina
2	Pelvic trauma Suprapubic tube Bladder neck closure	Female	41	The Monti technique	Bladder stoma
3	Suprapubic tube Ankylurethria	Female	43	The Monti technique	Bladder stoma
4	Spinal cord injury neurogenic bladder	Female	47	The Monti technique + ileum augmentation cystoplasty	Uroclepsia + indwelling catheter
5	Congenital hard surfaces present neurogenic bladder, double hydronephrosis	Male	6	The Monti technique + ileum augmentation cystoplasty	Uroclepsia + indwelling catheter

Nursing for Monti ileovesicostomy

Table 2. The anxiety status

Classification	The day before operation	A week after operation	A year after operation
No anxiety	0	0	1
Mild anxiety	0	1	3
Moderate anxiety	1	1	1
Severe anxiety	4	3	0
Total	5	5	5

Table 3. Social function satisfaction

Classification	One month before operation	A year after operation
Very satisfied	0	0
Satisfied	0	4
Dissatisfied	2	1
Very dissatisfied	3	0
Total	5	5

Table 4. Sexual function satisfaction

Classification	One month before operation	A year after operation
Very satisfied	0	1
Satisfied	0	3
Dissatisfied	1	0
Very dissatisfied	3	0
Total	4	4

nursing plans: we select qualified nurses who had received basic psychological counseling training as the patients' responsible nurses to give these patients whole psychological counseling and holistic care. We give these nurses lectures about the mental analysis of the patients with incontinence and we guide them to search and read relevant literature on the subject of ostomy of the urinary tract or bowels. On the fifth case above, We order responsible nurse do some basic learning and analysis about children psychology in order to give the boy with abnormal urination special attention and care. This can minimize the influence of low self-esteem, shame in the process of growing up which can help him merge into normal life of school and society.

Preoperative psychological nursing: Preoperative psychological nursing consists of three parts: Listening to the patients' personal experiences, introducing knowledge of the diseases and surgery, seeking and evaluating the

patient's social support system. 5 patients complain of their pains that come from uncomfortable physical, social distress, low self-esteem, economic difficulties and dissatisfied sexual life. Nurses recommend suitable patients to them for enhancing their confidence of overcoming the diseases. Assess the patient's social support system, including family members, friends, colleagues and so on.

Postoperative psychological nursing: Postoperative pain is obvious in the first week. So, understanding and dealing with the pain in patients to ease the psychological pressure of patients is very important, the digital pain classification method NRS (Numerical Rating Scale) can help them to choose analgesic pump, pain-killer injection or other oral analgesia in time for their particular needs and with their own choice. In order to enhance patient and their families' faith of rehabilitation and normal return to the society, we showed some videos of this kind of operation to these patients and their families

Convalescence psychological nursing

When the patients were in the rehabilitation period, the main psychological problems are anxiety and impaired social interaction related to intermittent catheterization and urinary leakage. We had family psychological interview for patients, conduct them to accept the reality and face it positively, reduce the negative inferiority complex. We also helped them to ask for help and support from parents and friends, introduce other patients who have the same disease so that they can get comfort and encouragement from each other.

Basic nursing and intestinal nursing care

According to the Orem's self-care theory, self-care skills of postoperative patients are assessed, and basic nursing care plans are made everyday to help Patients achieve self-care progressively. It is necessary to make a rigorous bowel preparation for the patients at the day before surgery because bowels is involved during this surgery. They can drink a lot of water till 6 hours before operation and get intravenous nutrition supply. Indwelling gastric tube are needed 2 to 3 days after surgery for stomach intestinal decompression. We offer liquid diet after pulling out the tube, then gradually we change it into solid food.

Nursing for Monti ileovesicostomy

Monti tubes and bladder fistulas' nursing

We placed tubes of bladder fistulas and Monti tubes in 5 patients routinely. Bladder fistulas were removed 1 month after the operation, and monti tubes were removed 1 week later. Some reasons such as the plenty of secretion of the intestine and the initial hematuria and so on. So we should observe whether the Monti tubes were obstructed or not regularly so as to replace them in time. 12F silica gel urinary catheter with 8 ml water bag was placed in Monti channel so as to form the sinus tract, which was called Monti tube.

Nursing of complications

Hemorrhage: The early postoperative bleeding include anastomotic intestinal bleeding, anastomotic ileal neobladder bleeding, and bleeding from nearby blood vessels. Vital signs, wound conditions, wound cavity drainage situation should be observed carefully after surgery. Fully lubricating catheter and gentle operation are necessary to avoid bleeding from damaged intestinal mucosa.

Monti stoma become narrow or were blocked: The sinus of Monti stoma is formed by ileum, so intestinal secretion from this sinus could narrow or even block the sinus itself. Generally, secretions can be expelled spontaneously with intestinal peristalsis. Under some circumstances, secretions can't be discharged automatically, but they can still be discharged if we apply gentle pressure to the catheter, or use abdominal pressure by patients themselves at the time of intermittent catheterization, so this kind of education and assistance are very important.

Urinary fistula: When bladder fistula tube and Monti tube are removed after surgery, patients control their urine by the long and narrow fistula, which can be closed by abdominal pressure when bladder is empty. However, when the bladder is full, incontinence would still happen because the closed sinus may open under pressure. So the patients need regular monti intermittent catheterization. Both bad timing catheterization and improper catheter insertion position could cause leakage of urine, which would wet underwear of patients. So patients should be well informed of the importance of timely catheterization. When patients go out, they should estimate the amount of

water drinking and the time of catheterization appropriately and find a good catheterization place in advance so that they can do catheterization whenever they want to urinate. Strengthen the patients' training of the operation so that they could quickly find adequate drainage of urine from the sinus. In addition, wearing underwear which is easy to operate and carrying clean catheterization tools and paper towels wherever they go are also important.

Health education

Clean intermittent catheterization of Monti stoma: Nursing care becomes a key point after the drainage tube was removed. We teach patients how to operate clean intermittent catheterization on abdominal wall and patients should be aware of the direction of the sinus. The whole operation should follow the three principle of keep it clean, lubricating it, and being gentle. The process of Catheterization should be kept clean. The catheter should be intubated gently with full lubrication to prevent injury. When the catheter enters the bladder, rotating the catheter could make the drainage more convenient, which could prevent the bladder from having too much residual urine. After education, the 5 patients were very skilled with operation to fulfill clean intermittent catheterization on abdominal wall within 2 to 3 minutes.

Guidance for catheterization timing: Three cases with normal bladder sensation only had urethral injury. We guide them to catheterize when they have the urge to urinate. Two cases of patients with neurogenic bladder required regular quantitative drinking and catheterization at regular time intervals. They needed a catheterization every 2-3 hours at normal, or every hour if they drank more than usual. Follow-up results show that sinus which is closed by abdominal pressure would open once bladder filling reaches a certain level because ileum sinus fistula do not like bladder sphincters which has strong control power.

The nursing care of uroclepsia: All cases wet the cloths more or less because of the slight urine leakage from sinus crossing caused by the immoderate move of intestines, or the urge to urinate comes suddenly without appropriate places for catheterization and the uncontrolla-

bility of the time of catheterization of patients with neurogenic bladder. So patients should not only carry tools for catheterization going out but also carry soft and ventilate sanitary pads or napkins to clear the skin with wet napkin having moisturizer. If possible, they should use sweet-smelling napkins to avoid the impact of urine smell. The peripheral skin of Monti stoma should be taken good care of by using protective agents to avoid dermatitis.

Guidance for sexual life: Four cases were adult female, so there were some problems in their sexual life. We fully considered this problem before operation. So surgeon selected belly button as the sinus opening to avoid the loss of libido by bad visual stimulation. In addition, it was recommended to do the catheterization before sexual activity to avoid leakage of urine or incontinence.

Results

All 5 patients showed no bloating or vomiting symptoms after meals. Severe bleeding didn't happen in 5 patients and only one case had a slight intestinal mucosal bleeding after intermittent catheterization. The bleeding did not arise again when we stressed to patients the importance of adequate lubrication and gentle manipulation. In 5 patients the symptoms of narrowing or blockage with 2 year's follow-up after surgery didn't arise. No dermatitis happened in 5 patients. The other follow-up results were in **Tables 2-4**.

Discussion

Pelvic fracture urethral distraction defect is usually managed by the end to end anastomotic urethroplasty [3]. However, the urethral defect cannot be negotiated with vigorous releasing of urethra from surrounding tissue because the urethral defect is extremely long or completely damaged [4, 5]. Kumar et al. [6] successfully used the Monti tube for posterior urethral substitution in boys, and we had success with Monti tube for posterior urethral substitution in this study. Lemelle et al. [7] compared the clinical efficacy of the appendix efferent tract and Monti efferent tract, and complications have no difference between the two efferent tracts. Gerharz et al. [8] believed that the ileal tract are readily available; intestine has less loss but large activity. Ileal tract is

not only convenient for surgery but also easy and reliable on urine control and catheterization. Madersbacher et al reported that after orthotopic neobladder surgery, the incidence rate of urinary incontinence is 26%. But Sevin and Hammouda's report showed that the rate of urinary incontinence is up to 50% [9-11]. Based on it, the incidence rate of urinary incontinence in our group of patients is much lower. Strictures and defects of the posterior urethra is one of the most significant complications [12]. Complications reported by some studies have higher probability with respect to our group [13-15]. However, our group has a relatively small number of cases, so it needs to add more cases to improve comparability in the future. A successful continent urinary cutaneous diversion depends on a suitable channel [16]. We establish a suitable channel through the operation and perioperative nursing which can help patients achieve a better life.

This study shows: patients had no serious physical and mental complications during postoperative period and follow-up period of one year, degree of satisfaction during hospitalization is high, this means that results of operation and the corresponding models of care is outstanding. Follow-up results show that in 5 cases' Monti sinus is running well. There are almost no serious blockages, patients can deal with slight blockages themselves. Operating time of the clean catheterization is similar with the normal toilet time. The patients feel the catheterization is simple without any discomfort. This study shows that related care is correct and effective which is a benefit for patients to resume normal social activities. During the family nursing, the patients had no complications, such as urinary tract infection, the family nursing ensure the needs of security. However, 5 patients appeared with varying degrees of urinary leakage in abdominal wall. Some scientists found [17, 18] that Self-care ability and bowel movement regularity are the significant influencing factors on the patient's physical, psychological, social function. In our study, we provided professional guidance and advice for patients, our study aimed at minimizing the occurrence of urinary leakage, increasing urination regularity and thus improve the patient's self-care ability, enhancing the social function of patients at the maximum. Follow-up results show that the patients' family members can smoothly become the patients' social support system. Patients' sexual life has also shown improvement as well

In conclusion, monti ileovesicostomy, making long and narrow fistula through the ileum under the skin, can solve the problem of paruria. It provides new way of urination for the patients with the disease of urinary incontinence and urethral injury. But it also has many problems such as complication, home care, social and sexual function recovery. Through the nursing of the 5 cases, we established an innovative nursing model, which can improve the patients' qualities of life and help the patients return to the society more effectively.

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Disclosure of conflict of interest

None.

Address correspondence to: Li Wang, West China Hospital, Sichuan University, Wuhou District, Guoxue Road 37#, Chengdu 610041, China. E-mail: wangli-chengdu@yeah.net

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