

SPECIAL NURSING CARE OF PATIENTS WITH ORTHOTOPIC BLADDER IN THE POSTOPERATIVE PERIOD

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ABSTRACT

Bladder cancer is one of the main problems in urology in terms of diagnosis and treatment, due to its high incidence and its course of development. Bladder cancer ranks fifth as the cause of death from malignant cancer (1.2% for women and 4.0% for men). Radical cystectomy has become the primary method for the treatment of invasive bladder cancer.

AIM: The aim of this paper is using the general experience, to make tabular algorithm of early and late postoperative urological nursing care of patients with radical cystectomy and orthotopic substitution

MATERIALS AND METHODS: Our research is based on: Olivia Herdiman et al. and the Clinic of Urology at the St. Anna University Hospital, Varna for the period 2012-2016. Our methods include: a documentary method, observation, and analysis conclusions.

Referring to the presented special urological nursing care of the postoperative period of orthotopic bladder in the report we can arrive at the conclusion that:

1. Special urological care is intensive and patients need overall treatment.
2. An educated and observant urologic nurse can avoid much of the postoperative complications with timely and quality health care.
3. After cystectomy and orthotopic replacement patients need psychological, family and social support.
4. After cystectomy, patients need to be trained by a urologic nurse to monitor urination, fluid intake and adhere to a proper diet. The instructions include involving a relative to have as a support outside the hospital.
5. Advantages of the algorithm for early and late postoperative complications:
 - contributes to the analytical and clinical way of thinking of urologic nurses;
 - reduces the period of hospitalization of the patient;
 - reduces the cost of postoperative recovery;
 - provides quality health care;
 - increases confidence in the team;
 - increases the trust of the patient.

Keywords: *nursing care, bladder cancer, urology, orthotopic bladder*

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INTRODUCTION

Health is a basic human necessity provided with the implementation of quality nursing care and training, catering to the needs of each individual patient.

Despite medical advancements, the 21st century still sees a lot of difficulties when threatening diseases with considerable social implications.

Bladder carcinoma resembles a serious problem for the field urology in regard to diagnosis and treatment. The reasons for that include its high incidence and course of development (5,6).

Bladder carcinoma is fifth in lethal outcomes (1.2% in women and 4.0% in men) amongst other malignancies (9,10).

One way to treat infiltrative bladder carcinoma is through radical cystectomy. Advancements in surgical techniques of urinary diversion and postoperative care have made cystectomy a widely applicable intervention with a relatively short postoperative period (5,7).

Radical cystectomy with the formation of an orthotopic bladder is a method of operative treatment and urine discharge which uses the construction of a new bladder via a part of the small intestine.

The advantages include lack of stomata and outer collectors, reducing the psychological discomfort and conserving the normal male behavior in the act of micturition (1,2,8).

Long-term observations and analysis of the acquired results show that replacing the bladder with a container made from the ileum proves to be the most

physiologically sound way with the lowest rate of complications. Due to these advantages, ileum surgeries to create orthotopic substitutes are perhaps the most frequently performed to restore urine discharge after a cystectomy (Fig. 2) (4).

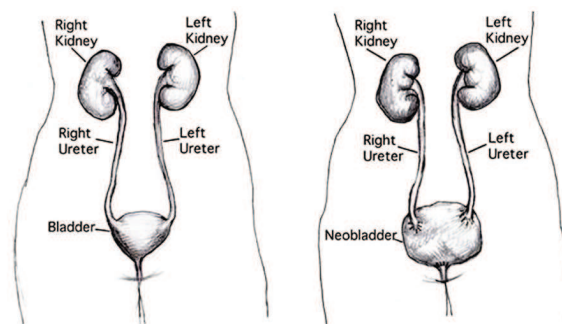


Fig. 2. Orthotopic substitution in a female after radical cystectomy

All the ways of forming a new bladder provide the possibility of stable anastomosis between the new bladder and the urethra using 4-6 sutures; as well as the possibility of a full closure of the new bladder (4).

AIM

The aim of this paper is to create a new table algorithm of early and late postoperative urological nursing care for patients with radical cystectomy and orthotopic substitution based on common experience.

MATERIALS AND METHODS:

The following experiment has been studied: Olivia Herdiman et al. and the Clinic of Urology at the St. Anna University Hospital, Varna for the period 2012-2016. The methods we have used were: documentary method, observation, and analysis.

RESULTS AND DISCUSSION

With the development and modernization of nursing care, a need of special urological care for patients who have undergone surgery for carcinoma of the bladder and orthotopic diversion becomes apparent. Urologic nurses offer general and specialist care to such patients. The analysis of Olivia Herdiman et al.'s experiment (12) in conjunction with Ordinance № 1 from February 8, 2011 (3) aims to adapt and implement the results in urological nursing care in Bul-

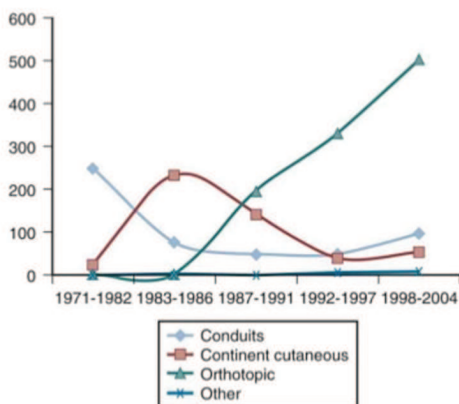


Fig. 1. Evolution of urinary diversion (1971 - 2004)

garia, which will also contribute to a more complete overview and access to better information.

The developed table algorithm borrows some suggestions from the experiment by Olivia Herdman et al. (12), however, it remains an original piece of work. The urologic nurse's conduct is based upon identified complications, symptoms and etiology which are shown in two tables, displaying both early and late postoperative nursing care.

Creating a table algorithm for early complications after cystectomy will contribute to increasing the quality of nursing care. Urologic nurses will have a guideline for the development of analytical and diagnostic thinking based on the Bulgarian regulations. This will increase the trust within interdisciplinary teams and between them and the patient.

However, to register and control nursing activities and their quality, one must be able to measure them. This requires a previously established framework of nurse interventions, in accordance with the competences they receive after acquiring their Bachelor's degree. It is crucial for the nurse's work to be a

subject to legitimate national norms. The algorithm, offered here, could be implemented as an exemplary system of actions of urologic nurses in cases of the described early and late symptoms and complications after cystectomy with an orthotopic bladder.

IMPLICATIONS

According to the specified special urologic nursing care during the postoperative period after an orthotopic bladder, shown in the report, the following conclusions can be drawn:

- ◇ Special urologic nursing care is intensive and complex.
- ◇ A well-educated and aware urologic nurse can avoid most of the postoperative complications with timely and quality care.
- ◇ After cystectomy and orthotopic substitution, patients need psychological support as well as the support of family and friends.
- ◇ After a cystectomy, patients need to be instructed by the urologic nurse to monitor their urination, fluid intake and follow an appropriate diet

Table 1. Special urologic nursing care in early postoperative period of cystectomy with orthotopic bladder.

Symptoms	Complication	Reason	Actions taken from the urological nurse according to the doctor's prescription, as per Ordinance № 1 from February 8, 2011	Independent urological nurse's actions, as per Ordinance № 1 from February 8, 2011
Decreased urine secretion, feeling of abdominal pressure, bloating, nausea, lower stomach pain	Separation and depressurisation of the anastomosis between the urethra and the new bladder	Leakage from the anastomosis may be due to damage to or necrosis of the urethra, lack of intraoperative tightness	Preparing the patient for testing and emergency surgery (percutaneous nephrostomy or second look)	Maintaining patency of the urethral catheter. Strict monitoring, reporting and registration of all drainage systems
Symptoms of acute cystitis. Low-grade fever, change in color and clarity of urine, pain in the waist area	Urinary infection	Initial infection. Drop in patient's immunity levels. Not applying rules of aseptic and antiseptic washes when rinsing the catheter and changing the urinary bags	Taking urine culture. Antibiotic therapy according to the antibiogram, probiotics and antifungals on doctor's discretion	Compliance with the rules of aseptic and antiseptic usage in the urological department

Nausea, vomiting, bloating, constipation, lack of peristaltic noises and gas	Ileus	In establishing the orthotopic bladder, the slot between the stretched mesentery of the new bladder and the right small pelvis wall is often filled by intestinal anastomosis (4)	Early ambulation and administration of drugs to stimulate the peristalsis. Removal of nasogastric tube and power supply. Restoration of homeostasis (replacement of blood and protein losses). Tracking of blood, level of the ions	
Increased urea and creatinine. Dull pain and pressure around waist with cramp-like characteristics	Atresia and stenosis of the ureter (15)	Traumatic, intraoperative, postoperative and inflammatory causes	Preparing of patient for testing and surgery	Special nursing care for patient with acute kidney failure
Lethargy, general weakness, exhaustion, tachycardia, paleness, dizziness, tinnitus, muscle atrophy, anorexia, hyperpigmentation of skin, confusion, diarrhea, hydration, steatorrhea	Metabolic disorders: metabolic acidosis, hypovitaminosis (13), hypokalemia, hypocalcemia, hypomagnesemia	Resection of large segments of the ileum is a reason for the development of malabsorption of bile acids and vitamins (A, E, D, K and B12); and metabolic acidosis	Correction of electrolyte abnormalities and metabolic acidosis. Analysis of KAP, parenteral correction of metabolic acidosis. Application of vitamin B12, folic acid and vitamin D, a proton pump inhibitor, antidiarrheal agents	
Need to urinate, feeling of pressure, inability to fully dispense the new bladder. Lower abdominal pain, hard and painful bladder. Urinary retention.	Globe vesicalis Separation of intestinal mucosa of the new tank.	Increase reservoir pressure and urinary retention due to obstruction of the mucosa	A need for washing the orthotopic bladder with sterile saline 0.9% every 3-4 hours is present. Assistance when changing the catheter.	Monitoring, reporting and registration of diuresis. Maintaining conductivity of the urethral catheter
Reducing the amount of urine to anuria. Severe pain in the bladder region	Rupture of the bladder	Pressurizing the new bladder due to blockage by mucus which is excreted by the ileum.	A need for washing the orthotopic bladder with sterile saline 0.9% every 3-4 hours is present in order to avoid clogging. Assistance in changing the catheter	Monitoring, reporting and registration of diuresis. Maintaining conductivity of the urethral catheter and all drainage. Preparation of patient for research and urgent revision

Table 2. Special urologic nursing care during the late postoperative period after cystectomy with an orthotopic bladder.

Symptoms	Complication	Reason	Actions taken from the urological nurse according to the doctor's prescription, as per Ordinance № 1 from February 8, 2011	Independent urological nurse's actions, as per Ordinance № 1 from February 8, 2011
Insomnia, inability to cope with day-to-day activities, sadness, suicidal thoughts	Depressive symptoms	Changes in quality of life and low adaptability	Consult with psychologist or psychiatrist	Promoting communication in family and friendly environment. Provision of educational material towards post-surgery conditions. Proposal to join a support group.
Feelings of worthlessness, anxiety and irritation	Financial stress	Reduced work efficiency, vocational rehabilitation, increasing costs of recovery	Referral to a social and employment councillor	
Low-grade fever, fatigue, symptoms of urinary infections	Chronic urinary infection (Pyelonephritis)	Increasing resistance towards antibiotics, low immunity levels, inadequate fluid intake and vitamin deficiency	Taking a urine culture and testing	Recommendations towards rational nutrition with more vitamins and fluids over 2000 ml daily
Involuntary release of urine and inability of wilful retention	Urinary incontinence	Due to inadequateness of voluntary sphincter controlling micturition in post-surgery patients	Preparation for uroflowmetry Biofeedback therapy	Using Kegel exercises to train the new bladder
Urgency to urinate, feelings of pressure and inability to fully empty the tank	High level of mucus secretion from the tank	Inability to fully discharge the new bladder, a slack of urine is present which predisposes for urinary tract infections	Catheterization and washing of the orthotopic bladder	Control over the right self-catheterization
Bloating and abdominal pain, nausea, vomiting	Constipation / diarrhea	Resection of the ileum (60cm)	Laxative or anti-diarrheal agents and probiotics	Recommendations for an adequate nutrition plan
Erectile dysfunction, dyspareunia, vaginal dryness, vaginismus	Disturbance of normal sexual function	Anatomic and functional changes after surgery	Consultation with a specialist, medical therapy	

Pain, pressure in the lumbar region, hematuria, increased urea and creatinine, can reach severe or chronic kidney failure	Disruption of normal kidney function	Atresia and stenosis of ureters (14)	Preparation for imaging studies, preparation for endoscopic stenting or nephrostomy	
Lethargy, general discomfort, fatigue	Chronic metabolic acidosis (11) with hypovitaminosis (vit. B12, vit.D and folic acid)	Part of the ileum is missing post-surgery	Tracking of blood level of the ions, correction of the "lost salt" syndrome and metabolic acidosis	Nursing care and education to prevent osteoporosis or osteomalacia as a consequence of chronic metabolic acidosis. Adjusted diet to compensate hypovitaminosis
Hematuria, dysuria, pollakiuria, pain in the new bladder	Recurrence of the underlying disease – carcinoma of the bladder	Local growth of the tumor process with present tumor metastases	Preparation for imaging and endoscopic tests to confirm diagnosis	

plan. It is advisable that a family member or a close friend be involved in the process so the patient has support outside the hospital too.

Advantages of the algorithm of early and late post-surgery complications:

- ◆ helps with the analytical and clinical thinking of urologic nurses;
- ◆ reduces the hospitalization period of the patient;
- ◆ reduces the costs of post-surgery care;
- ◆ increases the quality of nursing care;
- ◆ increases the trust in the team;
- ◆ increases the trust of the patient.

CONCLUSION

The fight against bladder tumors, one of the most frequent and severe diseases of the urinary system, remains one of the main problems of modern urology.

Open radical surgery remains a method of choice and the best alternative in advanced bladder tumor cases.

After such serious interventions, the quick and problem-free recovery of the patients depends on the urologic nurse's care, which includes competent, timely and specific actions. The role of the urologic nurse is not limited to caring for the postoperative wound. It also includes psychological support for the

patients and their family, as well as instructions and monitoring. With those functions the urologic nurse definitely has a place in the multidisciplinary medical team.

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