



The importance of physical therapy in the postoperative period after total cystectomy of bladder carcinoma

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The aim of this study is to evaluate the results and complications after radical cystectomy due to carcinoma of the bladder and to point out the significance of post-operative physical treatment and rehabilitation of these patients.

Material and method: In the period of 3 years (2007.-2010.), at the Urological Clinic in Belgrade, we performed 195 total cystectomies for invasive bladder carcinoma with the use of different types of urinary diversion. The operation was performed in 162 men (83%) and 33 women (17%).

Results: Survival, complications and postoperative recovery was dependent on the type of urinary diversion which was used, stage of disease and general condition of patients before surgery. The worst result was achieved in patients who underwent ureterocutaneostomy and the complications were represented in 30% of patients. In the group of patients where the ileal conduit was applied, complications were recorded in 10% of patients, while mortality was 5%. In the group of patients where the continent urinary diversion was performed, complications were recorded in 5% of patients in mind of stercoral fistulas, urinary fistulas and ileus.

Conclusion: The timely application of the physical therapy and rehabilitation in these patients is of great importance, because it reduces complications and allows faster recovery and release from the hospital.

Key words: invasive bladder cancer, spreaded disease, radical cystectomy, postoperative rehabilitation

INTRODUCTION

Radical cystoprostatectomy for the treatment of bladder cancer remains one of the most challenging operative procedures facing urologists¹. Surgeons can use single modality approach and multimodal approach². Indications of cystectomy for bladder cancer include

high grade tumors with failure of endoscopic control and infiltrating tumors without evidence of distant metastasis. A radical cystectomy in men involves removal of the bladder, prostate, and seminal vesicles³. A pelvic lymphadenectomy is recommended for staging of malignant diseases and urethrectomy should be performed if a transitional cell carcinoma involves the prostate or urethral mucosa^{4,1}. A radical cystectomy in the female implies an anterior exenteration and urethrectomy^{5,6}. The anterior vaginal wall, uterus, adnexa and ovaries are customarily removed to provide an extra margin of soft tissue adjacent to the primary lesion⁷. Surgical series over the past 20 years show the mortality rate from radical cystectomy to range from 1% to 3% and the morbidity rate from 25% to 41%. Complications from radical cystectomy can result from standard surgical events common to all pelvic operations such as infection, hemorrhage, injury of adjacent structures, wound problems and thromboembolic events^{8,9}. Complications from this procedures may also be related to the accompanying pelvic lymphadenectomy and urinary diversion^{10,2,3}.

MATERIAL AND METHOD

From July 2007. to June 2010. at the Urological Clinic in Belgrade, we performed 195 radical cystectomies for invasive carcinoma of the bladder. The operation was performed in 162 male patients (83%) and 33 women (17%). The operated patient's age ranged from 32 to 77 years, so that the average age was 62.5 ± 10 years.

Among the methods of urinary diversion, we have mostly performed ureterocutaneostomy, in 96 (50%) patients. Ileal conduit as a method of urine diversion, was applied in 99 (40%) patients. In 18 patients (10%) we made orthotopic continent urinary diversion by types of Mundy's or Studer's technique. Two patients underwent sigma-rectum pouch method. The patients who had no complications during the postoperative period, left the hospital between the 11th and the 21st postoperative day.

RESULTS

The most common general complications that have followed this procedure are bleeding, thromboembolism bleeding from the gastrointestinal tract and complications in the lungs. Complications specific to the operation were expressed as a yielding of intestinal anastomosis, ileus and urinary fistulas. Also, there were established and the complications related to wound, in the form of wound infection, dehiscence, seroma and hematoma.

Patients who underwent the ureterocutaneostomy as a method of urinary diversion, had locally advanced disease and metastases in the pelvic lymph glands. In these patients, complications were expressed in 30% of patients in the form of complications related to the operational wound because of advanced disease, hypoproteinemia and anemia. The overall mortality in these patients was approximately 15%. Patients who were subjected to ileal conduit as the urinary diversion, left the hospital between the 14th and the 20th day if they had no complications. In 10% of these patients, we had different types of complications reported. Mortality in these patients was 5%. The most common cause of death in these patients were thromboembolic complications, sepsis, pneumonia, myocardial infarct, disseminated intravascular coagulopathy and stroke. With continent urinary diversion, complications occurred in 5% of patients. The most common were ileus, stercoral fistulas and urinary fistulas. These complications required a review and in most cases conversion and ureterocutaneostomy or ileal conduit. In some cases we applied unilateral or bilateral nephrostomy with ureteral ligation, as the final solution.

DISCUSSION

The main factors that prevent the occurrence of postoperative complications and mortality after radical cystectomy and urinary diversion, are a good selection of patients for surgery and good preoperative preparation of patient^{11,4}. Also, the precise surgical techniques and good hemostasis, and postoperative care and professional monitoring of patients, are very important.

Methods of modern physical therapy in the immediate postoperative period, prevent many complications and shorten patient's stay in hospital, reduce postoperative mortality and also reduce the costs of treatment.

Early mobilization (rising from the bed) leads the patient to the significant reduction in thromboembolic complications (by about 15%).

As the operations in the pelvic cavity are at high risk for the occurrence of thrombophlebitis and subsequent thrombosis, preoperative placement of elastic bandages on the lower legs and early rising during the postoperative period, significantly reduce these complications. Physical methods used in these cases are exercises to improve ventilation (tapping for mucus discharging, breathing exercises) which enable the prevention of complications in the lungs, the development of atelectasis, pneumonia and acute respiratory distress syndrom. Fast recovery of the patient, early rising, independently performing of personal hygiene and food intake, act positively on the psy-

chological aspect of patients, raise their immune system and lead to faster healing.

REZIME

Cilj ovog rada je da se evaluiraju rezultati i komplikacije nakon totalne cistektomije zbog karcinoma mokraćne bešike i ukaže na značaj postoperativne fizikalne terapije i rehabilitacije ovih bolesnika.

Materijal i metod: U periodu od tri godine (2007 -2010) na Urološkoj klinici u Beogradu uradjeno je 195 totalnih cistektomija zbog invazivnog karcinoma mokraćne bešike sa različitim vrstama urinarne derivacije. Operacija je primenjena kod 162 muškarca (83%) i 33 žene (17%).

Rezultati: Preživljavanje, komplikacije i postoperativni tok je zavisio od vrste urinarne diverzije koja je primenjena. Najlošiji rezultat je postignut kod bolesnika kod kojih je radjena ureterokutaneostomija i ovde su komplikacije bile zastupljene u 30% bolesnika. U grupi pacijenata gde je radjen ilealni conduit komplikacije su se javile u 10% bolesnika, dok je smrtnost bila 5%. U grupi pacijenata gde su radjene kontinentne urinarne derivacije komplikacije su se javile u 5% i to u vidu sterkoralne fistule, urinarne fistule i ileusa.

Zaključak: Veliki je značaj pravovremene primene fizikalne terapije i rehabilitacije kod ovih bolesnika u postoperativnom periodu što smanjuje komplikacije i omogućava brzi oporavak.

Ključne reči: invazivni karcinom mokraćne bešike, širenje bolesti, radikalna cistektomija, postoperativna rehabilitacija

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