



Oncology

Retroperitoneoscopic Cutaneous Ureterostomy in the Supine Position to Relieve Painful Urinary-related Symptoms in an Advanced Anal Canal Cancer Patient

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ABSTRACT

A case of advanced anal canal cancer with skin metastases that extended to the scrotum, penis, and lower abdomen is presented. The patient had severe pain on contact with voided urine because of skin tumors. The curved penis did not allow insertion of catheter to treat painful urination, and suprapubic cystostomy insertion was also impossible because of skin tumors. A right cutaneous ureterostomy was performed using the retroperitoneoscopic approach in supine position, and the left renal artery was embolized using ethanol to eliminate left kidney function. The patient became completely free from all urinary-related pains until he died of progressive disease.

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Introduction

To salvage urinary-related symptoms for advanced pelvic cancer patients, palliative cystectomy with urinary diversion has been occasionally performed.¹ However, for patients with a poor prognosis and poor general condition, less invasive and less complicated operations are needed to avoid a decreased quality of life.^{2,3}

The present report describes the case of an advanced anal canal cancer patient with widely extended skin metastases and painful urinary-related symptoms. The patient was treated with retroperitoneoscopic cutaneous ureterostomy and embolization of the renal artery to eliminate left kidney function to prevent the downstream flow of urine into the bladder and relieve the patient's severe skin pain on urination.

Case presentation

A 53-year-old man was diagnosed with advanced anal canal cancer, and rectal amputation, extended regional lymphadenectomy, and colostomy were performed. After these operations, the patient's skin metastases extended widely to his perineum, scrotum, penis, and lower abdomen (Fig. 1). The disease was

refractory to anticancer chemotherapies. Although the patient was being treated with best supportive care, he was referred to our urologic department. His penis was curved with sclerosed foreskin because of multiple tumors, making urination difficult. In addition, severe pain occurred when voided urine came in contact with his skin tumors because they were infected and ulcerated.

A Foley catheter could not be inserted owing to the penile curvature, and a cystostomy could not be placed because of the skin tumors in the suprapubic area. To relieve the patient's severe skin pain on urination, complete prevention of the downstream flow of urine into the bladder was indispensable. Because he had a very poor prognosis and his general condition was too poor for invasive surgery, a retroperitoneoscopic right cutaneous ureterostomy followed by embolization of the left renal artery using ethanol to eliminate left kidney function was performed.

At the time of the operation, the patient was placed in the supine position because it was very difficult to put him into the lateral decubitus position without causing compression of abdominal tumors, which would cause severe pain after waking up from general anesthesia. A small incision was made in the anterior axillary line at the level of the navel. After the retroperitoneal space was extended using a dissecting balloon, a second 5-mm trocar was inserted 5 cm inferior to the first, a third 5-mm trocar was placed 5 cm medial to the first, and the fourth trocar was inserted 5 cm inferior to the third (Fig. 2, left). After establishment of a pneumoretroperitoneal space with a maximum CO₂ pressure of 8 mm Hg, the laterocorneal fascia and the posterior

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Figure 1. Skin metastatic lesions. The skin metastases are seen in the perineum and extend widely to involve the scrotum, penis, and lower abdomen, including the suprapubic area. The patient's penis is curved, with sclerosed foreskin because of multiple tumors.

renal fascia were incised longitudinally on the psoas muscle. The right ureter was identified and carefully dissected free from surrounding tissues with periureteral blood vessels. The ureter was clipped and transected at the level of the right common iliac artery and withdrawn through the third port. A ureteral stoma was made using the Toyoda method.⁴ A 5-mm suction drain was placed through the fourth port, and the wounds were closed with subcuticular sutures (Fig. 2, right). Surgical time was 123 minutes, and blood loss was kept to a minimum.

Five days after the surgery, the left renal artery was embolized using ethanol to eliminate left kidney function. After these

procedures, he was completely free from painful urinary-related symptoms until he died of progressive disease 24 days after the surgery.

Discussion

For the treatment of obstructive uropathy from advanced intrapelvic cancer and to control recurrent hematuria from bladder cancer or radiation cystitis, urinary diversion has been occasionally performed as a palliative therapy for these patients.^{1,2,5} If the patients have a poor prognosis and are at high risk for invasive surgery, simple and less invasive treatments are needed to avoid decreasing their quality of life. Therefore, laparoscopic cutaneous ureterostomy was reported by some authors as one of the less invasive urinary diversions.^{2,3,6,7}

To relieve symptoms from fistula formation or painful bladder symptoms, complete prevention of the downstream flow of urine into the bladder is needed.¹ In the present case, cystectomy with an ileal conduit was not feasible because the general condition of the patient was too poor to undergo long, invasive surgery. In addition, there was no space for left cutaneous ureterostomy because of the spread of tumors, and the procedures of right-sided repositioning of the left ureter were also too invasive for him because of a “frozen” pelvis and previous extended lymphadenectomy. Therefore, a right cutaneous ureterostomy was performed using the retroperitoneoscopic approach, followed by embolization of the left renal artery to eliminate left kidney function, as previously reported.²

At the time of operation, the patient was placed in the supine position. His skin metastases were widely spread to the perineum, genitalia, and lower abdomen. If these tumors had been compressed while he was placed in the lateral decubitus position, they would have caused severe pain after waking up from general anesthesia. The supine position has often been used for extraperitoneal laparoscopic surgery, such as retroperitoneal lymph node dissection for testicular cancer.^{8–10} As described in our previous reports, once the pneumoretroperitoneal space had been widely

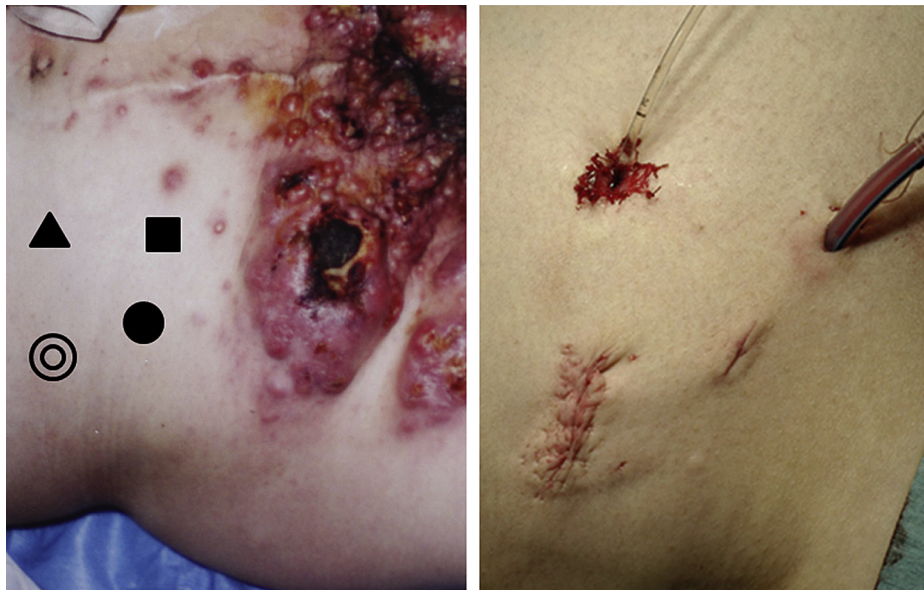


Figure 2. Left, the sites of trocar placement are limited by the skin tumors; the first trocar for the camera is placed in the anterior axillary line at the level of the navel (double circle). The second trocar is placed 5 cm inferior to the first trocar (filled circle). The third trocar (5 mm) is placed 5 cm medial to the first trocar (filled triangle). The fourth trocar is placed 5 cm inferior to the third port (filled square). Right cutaneous ureterostomy and suction drain placement. The ureter is withdrawn through the third port. The ureteral stoma is made using the Toyoda method with a ureteral stent. A 5-mm suction drain is placed through the fourth port and the wounds closed.

extended with blunt dissection, we could do any procedures with no difficulties in the supine position.^{8,10} One of the merits of the supine position in cutaneous ureterostomy is that the surgeon can create bilateral stomas without changing patient position. When the length of the dissected ureter was shorter than the surgeon expected, the location of the ureterostoma could be easily moved to any place that was ideal for managing postoperative stoma care.

Conclusion

To relieve an advanced pelvic cancer patient's severe urinary-related pain, retroperitoneoscopic right cutaneous ureterostomy followed by embolization of the left renal artery to eliminate left kidney function was performed. The patient was free from the painful urinary-related symptoms until he died of progressive disease. This treatment strategy is feasible for selected patients to avoid decreasing the quality of their remaining life.

Conflict of interest

None of the authors have any potential conflicts of interest to declare.

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