A 65-year-old Japanese woman underwent radical cystectomy and right nephroureterectomy for muscle-invasive bladder cancer. A left ureterocutaneostomy was constructed for urinary diversion. There was no evidence of recurrence for 4 years after the surgery. At 54 months after the surgery, however, she was referred with a chief complaint of painless skin erosion around the stoma. An incisional biopsy of the lesion showed no evidence of malignancy. Thereafter, the lesion was treated as a benign skin erosion. However, the erosion expanded over the next 4 months, and a second incisional biopsy revealed that the erosion was overlying malignant cells. Computed tomography showed a skin tumor of 4 cm in diameter. No other metastases were revealed on whole-body imaging examinations. Urine cytology was negative. A skin tumor extirpation was performed, and the specimen showed that the skin tumor consisted of malignant growth of papillary cells adjacent to the ureter, which were identical to those of the primary bladder cancer. A malignant component was not observed in the lumen of the resected ureter. No evidence of disease was observed in the first 3 months after extirpation. Reports of solitary skin metastasis from bladder cancer are rare, and only a few cases have been reported in the English literature. Because skin metastasis from bladder cancer can mimic a number of different benign conditions, a high index of suspicion may be necessary to make a definitive diagnosis.

**Key words:** bladder cancer – skin metastasis – solitary metastasis

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**INTRODUCTION**

We present an unusual case of solitary skin metastasis adjacent to an ureterocutaneostomy appearing 4 years after radical cystectomy for bladder cancer. Metastases such as that in the present case have several unique characteristics. First, reports of solitary skin metastasis from bladder cancer are rare, and only a few cases have been reported in the English literature. Secondly, recurrences 3 years after radical cystectomy are infrequent. Thirdly, at its first appearance, the tumor in the present patient was initially suspected to be a benign skin erosion, which is sometimes observed around the stoma site in clinical practice.

**CASE REPORT**

A 65-year-old Japanese woman underwent radical cystectomy and pelvic lymph node dissection for clinical T2N0M0 bladder cancer in March 2006. She also underwent right nephroureterectomy for a right atrophic kidney at the same surgery. Intraoperative frozen section diagnosis revealed that the stump of the left ureter showed no evidence of malignancy. Thereafter, a left ureterocutaneostomy was constructed for urinary diversion. According to General Rules for bladder cancer (1), pathological diagnosis of the specimen was a high-grade urothelial carcinoma with granular differentiation, INFb, ly1, v1 and the pathological stage was
T2bN0M0. No adjuvant therapy was administered after the surgery. The patient then suffered a ureteral stricture at the opening of the ureterocutaneostomy stoma 2 months after the surgery, and an indwelling ureteral catheter was inserted. Subsequently, the ureteral catheter was exchanged every 1–2 months at her local clinic. She underwent whole-body computed tomography and urine cytology as regular follow-up examinations at our hospital every 3 months for the first post-operative year. Thereafter, follow-up examinations were conducted every 6 months for the next 2 years and annually thereafter. She developed no recurrence for 4 years after the surgery.

At 54 months after the surgery, however, she was referred to our hospital with a chief complaint of painless skin erosion around the stoma (Fig. 1). Although we did not strongly suspect that the erosion was caused by malignancy, we performed an incisional biopsy. The biopsy specimen showed no evidence of malignancy. The lesion was treated as a benign skin erosion with skincare treatment. However, the area of the erosion expanded over the next 4 months despite the skincare treatment. We suspected malignancy and performed a second incisional biopsy, which revealed that the erosion was overlying malignant cells that were suspected of being urothelial carcinoma. Urine cytology was negative, and retrograde pyelography did not arouse suspicion of upper urinary tract cancer. Whole-body computed tomography showed a skin tumor of 4 cm in diameter without invasion into the muscle fascia (Fig. 2) and did not reveal any other metastases. We then performed tumor extirpation with 1 cm margins that included the stoma (Fig. 3A). We dissected the ureter until the retroperitoneal space with incising muscle fascia to spare the length of it and reconstructed the ureterocutaneostomy 5 cm above the original stoma site (Fig. 3B). Macroscopic appearance of the resected specimen showed that the tumor grew surrounding the ureter (Fig. 4A). At histopathologic examination, the microscopic appearance of the tumor in the resected specimen revealed the growth of malignant papillary cells with granular differentiation, which were identical to the urothelial carcinoma cells of the primary bladder cancer (Fig. 4B and C). Although malignant cells invaded the ureteral wall, a malignant component was not observed in the lumen of the resected ureter. After extirpation, two cycles of

Figure 1. Skin erosion and granulomatous tissue around the ureterocutaneostomy at the first biopsy.

Figure 2. Contrast-enhanced computed tomography shows a cutaneous tumor (arrows) of 4 cm in diameter adjacent to the ureterocutaneostomy without invasion into the muscle fascia. A ureteral catheter is indwelling in the left ureter.

Figure 3. Tumor was extirpated with 1 cm margins that included the stoma (A). Subsequently, ureterocutaneostomy was reconstructed 5 cm above the original stoma site (B).
chemotherapy consisting of gemcitabine and cisplatin were administered as adjuvant therapy. There has been no evidence of disease in the first 3 months after the extirpation.

**DISCUSSION**

Skin metastasis is uncommon and usually observed at the terminal stage of disseminated bladder cancer. In reports of 2117 autopsy cases from 2004 to 2008 in Japan (2), the frequency of metastasis to skin from bladder cancer was 1.5%. However, reports of solitary skin metastasis due to urothelial carcinoma are rare. There are only a few reports of cases including ours in the English literature (3–5). The patient in one of these previous cases was reported to be free of disease during the 23 years following extirpation of the cutaneous tumor (5), even though survival after skin metastasis presenting as one of multiple metastases from urothelial carcinoma is usually short and measured in months.

Malignant cells can metastasize to the skin by implantation and by lymphatic as well as hematogenous routes (4). Iatrogenic implantation from surgical procedures may be responsible in a certain case with cutaneous metastasis from bladder cancer (6). Every possible mechanism can account for the metastasis in the present case, though it is difficult to determine what kind of mechanism contributed.

Recurrence 3 years after radical cystectomy for bladder cancer such as that in the present case is also infrequent. In a series of 1054 radical cystectomies for bladder cancer, only 14% of all recurrences occurred 3 years after surgery (7).

Risk of recurrence at 3 years after radical cystectomy is 5–10% (7,8), and the most frequent site of recurrence after 3 years was reported to be in the upper urinary tract (8).

Skin metastases from bladder cancer were initially misdiagnosed in some of these case reports because they mimicked a number of different benign conditions such as furuncles (9), erysipelas (10), herpes zoster (11) and pseudoaneurysm (12). In the present case, cutaneous metastasis presented as skin erosion occurring adjacent to the stoma site. Because benign skin erosion around the stoma site is sometimes observed in clinical practice, the first appearance of skin erosion in this patient did not lead us to strongly suspect possible malignancy. However, the continuous expansion and intractable erosion occurring in our patient urged us to suspect malignancy. A high index of suspicion may be necessary to make a definitive diagnosis in cases of expanding and intractable skin lesions associated with an ureterocutaneostomy.

**Conflict of interest statement**

None declared.

**References**


