A case of squamous cell carcinoma arising from the suprapubic cystostomy tract


Yokohama City University Graduate School of Medicine and School of Medicine, Department of Urology
National Hospital Organization Sagamihara National Hospital
*1 Department of Urology
*2 Department of Dermatology
*3 Department of Pathology

Background
Patients with spinal cord injury and chronic indwelling catheters are known to be at increased risk of bladder malignancy. It has been associated with chronic inflammation and chronic physical stimuli of catheters. On the other hand, squamous cell carcinoma (SCC) is the second most common type of skin cancer. Most cases of SCC will be also caused by exposure to the physical stimuli, the sun's harmful ultraviolet rays and so on. We report a case of SCC developed from the epidermis around the suprapubic cystostomy. The physical stimuli of the suprapubic cystostomy was speculated to cause SCC in this case. To our knowledge, only three such cases had been reported previously. We had to emphasize that chronic indwelling catheters could cause malignancy of not only the bladder but also the epidermis. Especially when catheter was indwelled for a long time, any skin changes around the suprapubic cystostomy must be noted.

Abstract
We report a case of a lower abdominal SCC resulting from a long-term indwelling percutaneous suprapubic cystostomy. Abdominal enhanced computed tomography (CT) showed a mass 7 cm in diameter surrounding suprapubic cystostomy and bilateral inguinal and para-aortic lymph nodes metastasis. The physical stimuli of the suprapubic cystostomy was speculated to cause SCC in this case. It is crucial to pay attention to any suspicious signs including skin change around the suprapubic cystostomy especially when catheter was indwelled for a long time. This case
presentation is a forth report of SCC arising from the suprapubic cystostomy tract in the previous literatures.

Case report
A 58-year-old man with spinal cord injury was referred to our hospital in August 2010 with a chief complaint of abdominal mass. Because of his history of brain hemorrhage 4 years ago, the patient lacked several higher brain functions of him. Spinal cord injury removed feeling below the waist from the patient.

The patient presented abdominal mass surrounding suprapubic cystostomy (Figure 1a). Her skin around the mass was reddish, and purulent discharge was noted with bad smell (Figure 1b).

A percutaneous cystostomy was established about 35 years ago for management of neurogenic bladder after spinal cord injury, and a suprapubic cystostomy catheter was exchanged once a month by other office urologists.

Urinalysis revealed leukocytes (100/<HPF), hematuria (50-99/<HPF). Urine cytologic evaluation was class □, and atypical squamous cells were checked under a microscope. An enhanced chest and abdominal CT (Figure 2) showed a mass (72mm x 63mm) surrounding suprapubic cystostomy and bilateral inguinal and para-aortic lymph nodes swelling. Chest and anterior mediastinal lesions showed no specific findings. The cystoscopy could not be performed because of his lower-extremity contracture deformity.

Histopathological examination of percutaneous biopsy specimens from the tumor suggested SCC (Figure 3). The patient was thus determined to have stage IV (cT4N1M1) epidermal SCC and was treated with palliative external radiation therapy. Chemo therapy was not used because this patient's performance status was extremely poor. A dose of 56 Gy was delivered to the pelvic area including primary tumor and inguinal metastatic lymph nodes in 5 weeks. The primary tumor and metastatic lymph nodes responded partially to this therapy. Postradiotherapeutic period was uneventful. The patient has remained asymptomatic in an 6-month follow-up.

Discussion
Patients with spinal cord injury and chronic indwelling catheters are known to be at increased risk of bladder malignancy. The most common tumors found were SCC 33-46.9%, urothelial carcinoma 31.3-55%, adenocarcinoma 9.4-10%, and SCC was more common in patients with indwelling urethral catheters and
suprapubic tubes than other bladder managements. There is a 10% incidence of SCC of the bladder in patients with indwelling catheters for more than 10 years\(^9\). The mean time between spinal cord injury and the first bladder malignancy diagnosis was 22.6 years\(^7\).

We have to assess the origin of SCC in this case. The cystoscopy could not be performed, so we could not watch out the bladder mucosa through the scope. We concluded, however, that SCC developed from not the bladder but the epidermis around the suprapubic catheter. That’s because no gross hematuria was revealed for the duration of follow-up, and urine cytologic evaluation was class □. In addition, front formation\(^9\) was observed at an obvious border between normal epithelial cells and carcinoma cells subcutaneously (Figure 3 arrow). That indicated that the origin of SCC was squamous epithelial cell. This case presentation is a forth report of SCC arising from the suprapubic cystostomy tract in the previous literatures\(^1\)-\(^3\).

Chronic exposure to sunlight causes most cases of SCC. And skin injuries, scars, chronic infections and skin inflammation are another important source. The physical stimuli of the suprapubic cystostomy were speculated to cause SCC in this case.

The only acceptable treatment for deeply invasive but localized SCC arising from the suprapubic cystostomy tract was indeed radical cystectomy and urinary diversion\(^3\). In this case, external radiation therapy as palliative treatment for the unresectable metastatic SCC was performed. This patient obtained partial remission and good palliation of symptoms. In conclusion, palliative radiation therapy (total 56Gy) had a role to play in the palliation of metastatic SCC, with good relief of symptoms.

Needless to say, it is crucial to pay attention to any suspicious signs including skin changes around the suprapubic cystostomy especially when catheter was indwelled for a long time. In this case, other office urologists that exchanged a suprapubic cystostomy catheter once a month had taken notice of the abdominal mass for 6 months before an admission, but considered as hyperplasia of benign granulation. The mass had kept growing so slowly and gradually, that it seemed to be tricky to make diagnoses accurately in an early stage. We have to reemphasize that chronic indwelling catheters could cause malignancy of not only the bladder but also the epidermis. That must lead to early detection of SCC arising from the suprapublic cystostomy tract, and allow for early treatment.

Conclusions

This case presentation is a forth report of SCC arising from the suprapubic cystostomy
tract in the previous literatures. In this case, external radiation therapy as palliative treatment for the unresectable metastatic SCC was performed. This patient obtained partial remission and good palliation of symptoms. It is crucial to pay attention to any suspicious signs including skin changes around the suprapubic cystostomy especially when catheter was indwelled for a long time for early detection of malignancy.

Consent
Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing interests
No conflict of interests

References


Figure 1: (a) The mass (50mm diameter) was noted around the suprapubic catheter. (b) Closer view of the mass.
Figure 2: An enhanced abdominal CT showed a mass (72mm x 63mm) surrounding suprapubic.

Figure 3: Microscopic findings (hematoxylin and eosin stain): Well differentiated squamous cell carcinoma were found. Front formation (arrow head) were observed at the border between carcinoma cells and normal epithelial cells subcutaneously.