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Case Report

Highly differentiated squamous cell carcinoma arising from a suprapubic cystostomy tract in a patient with transplanted kidney

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Abstract: Squamous cell carcinoma arising from a suprapubic cystostomy tract (SCC-SCT) is a relatively rare bladder malignancy. We present a case of highly differentiated SCC-SCT involving the bladder in a 61-year-old patient with transplanted kidney. Abdominal magnetic resonance imaging revealed an anomalous mass (8 cm × 6 cm × 5 cm) surrounding the suprapubic cystostomy and a space-occupying lesion in the bladder. The pathology report revealed highly differentiated SCC. The patient received radiation therapy after he refused aggressive surgical management in 2012. There was no evidence of metastasis at his latest follow-up in early 2015.

Keywords: Squamous cell carcinoma, suprapubic cystostomy, bladder malignancy

Introduction

Squamous cell carcinoma arising from a suprapubic cystostomy tract (SCC-SCT) is a relatively rare bladder malignancy, which is known to have a close association with long-term inflammation and mechanical irritation from the suprapubic catheter [1]. We report a case of highly differentiated SCC-SCT involving the bladder in a 61-year-old patient with transplanted kidney. Written informed consent was obtained from the patient for publication of this case report and any accompanying images. To the best of our knowledge, this is the first report describing SCC-SCT in a patient who underwent renal transplantation and who has survived longer than 2 years.

Case report

A 61-year-old male was admitted to our hospital for ulcerative bleeding with abnormal blisters surrounding an SCT and suprapubic catheter-related chronic pain. He was diagnosed with a lipoma of the spinal cord and underwent tumor excision in 1986. After surgery, he developed progressive lower extremity weakness, complicated by a neurogenic bladder and bilateral hydronephrosis. To preserve renal functional and urine drainage, the patient underwent percutaneous suprapubic cystostomy with placement of an indwelling catheter 3 months later at a local hospital. In 1996, the patient began hemodialysis for uremia resulting from chronic renal impairment, and eventually underwent left kidney transplantation in 1998. As a renal transplant recipient, the patient regularly took immunosuppressive drugs.

Physical examination revealed abnormal blisters surrounding the SCT and significant ulcerative bleeding with catheter-related friction. The skin around the SCT showed edema, erythema, and a purulent foul-smelling discharge. Abdominal magnetic resonance imaging (MRI) (**Figure 1**) revealed an anomalous mass (8 cm × 6 cm × 5 cm) surrounding the suprapubic cystostomy and a space-occupying lesion in the bladder. Cystoscopy could not be performed because of the patient's contracted bladder (capacity less than 50 ml). The pathology report of biopsy specimens from the mass revealed SCC (**Figure 4**).

The patient rejected treatment recommendations including aggressive surgical excision of the entire bladder along with the affected abdominal wall, and only agreed to accept three-

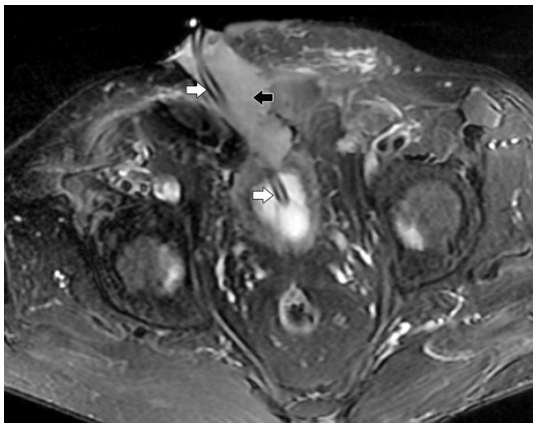

Figure 1. MRI (T2WI phase) findings before radiotherapy. An irregularly-shaped mass (black arrow) surrounding the suprapubic catheter (white arrow) was detected. A relatively clear boundary between the invasive bladder mass and cystostomy tract tissue could be seen.

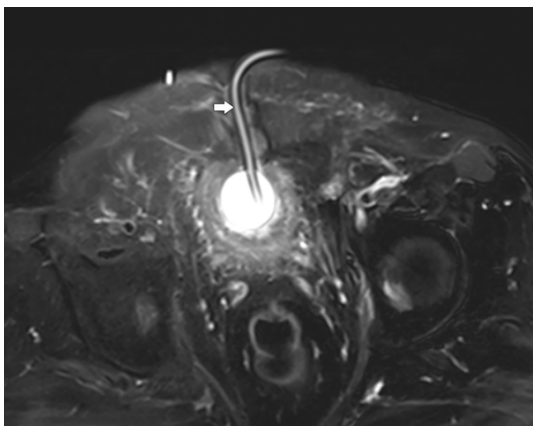

Figure 2. MRI (T2WI phase) findings after performing 6-month radiotherapy. There was no apparent mass around the suprapubic catheter (white arrow). The bladder wall was intact and smooth.

dimensional conformal radiotherapy with intensity modulation. A dose of 60 Gy was administered over 4 weeks to the pelvic area including the primary tumor and the anterior wall of the bladder. MRI of the abdomen after radiotherapy showed that the mass between the SCT and bladder had disappeared (**Figures 2**, **3**), and there was no evidence of metastasis at his latest follow-up in early 2015.

Discussion

SCC is an unusual form of bladder carcinoma. The long-term indwelling catheter and chronic irritation from urinary calculi and bladder diver-

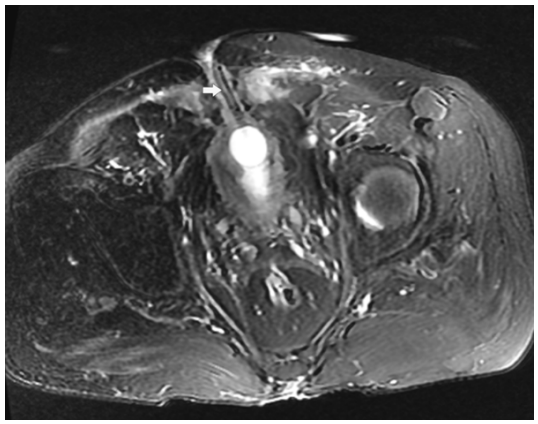

Figure 3. MRI (T2WI phase) findings after performing 30-month radiotherapy. No abnormal mass around the suprapubic catheter (white arrow) was detected.

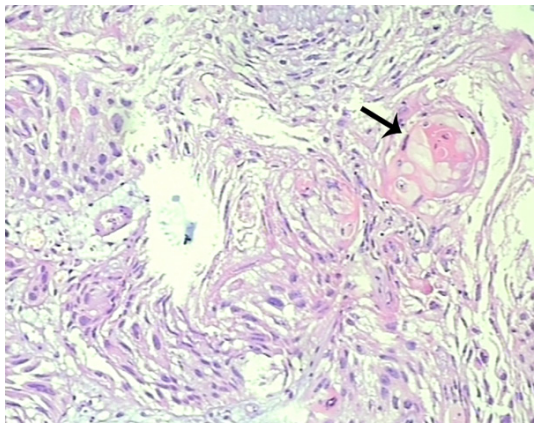

Figure 4. Disordered squamous epithelial cells and typical highly differentiated squamous cells were seen in the pathology slides of the tumor biopsy (hematoxylin and eosin staining, ×200), which verified the diagnosis of SCC.

ticula may increase the risk of SCC. The literature reports that squamous metaplasia is more common in patients with an indwelling catheter for more than 10 years. As many as 80% of such patients will develop this pathological change [2]. The specific clinical significance of this phenomenon is still not clear, but some studies have shown that squamous metaplasia is an early stage of SCC [3].

In this case, we did not perform cystoscopy to confirm the relationship between the bladder mucosa and the tumor due to contracted bladder volume. Given the atypical hematuria, along with the distinct border between normal epithelium and carcinoma cells in the pathology slides

of the tumor biopsy, it was speculated that SCC originated from the epidermis around the suprapubic catheter. There have been only six reports of SCC-SCT in the literature [4-9], and a case reported by Stokes et al. was the longest surviving patient, at 8 months [7]. The present case is the first reported SCC-SCT patient who has survived more than 2 years.

We believe this case of SCC-SCT may be associated with chronic mechanical irritation caused by an indwelling suprapubic catheter and use of immunosuppressive drugs (this patient had taken azathioprine, allopurinol, and prednisone acetate after kidney transplantation) [10].

Some urologists have suggested that the only effective therapy for SCC-SCT is radical cystectomy and urinary diversion [4, 5, 11]. In this case, the patient refused any surgical intervention. As an alternative, radiotherapy was performed. As of his latest follow-up in early 2015, there is still no evidence of local recurrence or metastasis.

Conclusion

This is the first report describing SCC-SCT in a patient with a history of renal transplantation and who has survived longer than 2 years. It is important to evaluate changes around a suprapubic cystostomy, particularly in patients with a long-term indwelling catheter or those taking immunosuppressive drugs.

Disclosure of conflict of interest

None.

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References

[1] Vaidyanathan S, Mansour P, Soni BM, Singh G, Sett P. The method of bladder drainage in spinal cord injury patients may influence the histological changes in the mucosa of neuropathic bladder-a hypothesis. BMC Urol 2002; 2: 5.

[2] Kaufman JM, Fam B, Jacobs SC, Gabilondo F, Yalla S, Kane JP, Rossier AB. Bladder cancer and squamous metaplasia in spinal cord injury patients. J Urol 1977; 118: 967-971.

[3] Ahmad I, Barnetson RJ, Krishna NS. Keratinizing Squamous Metaplasia of the Bladder: A Review. Urol Int 2008; 81: 2247-2251.

[4] Ito H, Arao M, Ishigaki H, Ohshima N, Horita A, Saito I, Hirai K. A case of squamous cell carcinoma arising from a suprapubic cystostomy tract. BMC Urol 2011; 11: 20.

[5] Chung JM, Oh JH, Kang SH, Choi S. Squamous cell carcinoma of the suprapubic cystostomy tract with bladder involvement. Korean J Urol 2013; 53: 638-640.

[6] Stroumbakis N, Choudhury MS, Hernandez-Graulau JM. Squamous cell carcinoma arising from suprapubic cystostomy site without bladder involvement. Urology 1993; 41: 568-570.

[7] Stokes S 3rd, Wheeler JS Jr, Reyes CV. Squamous cell carcinoma arising from a suprapubic cystostomy tract with extension into the bladder. J Urol 1995; 154: 1132-1133.

[8] Schaafsma RJ, Delaere KP, Theunissen PH. Squamous cell carcinoma of suprapubic cystostomy tract without bladder involvement. Spinal Cord 1999; 37: 373-374.

[9] Gupta NP, Singh I, Nabi G, Ansari MS, Mandal S. Marjolin's ulcer of the suprapubic cystostomy site infiltrating the urinary bladder: A rare occurrence. Urology 2000; 56: 330.

[10] Van den Reek JM, Van Lümig PP, Janssen M, Schers HJ, Hendriks JC, Van de Kerkhof PC, Seyger MM, De Jong EM. Increased incidence of squamous cell carcinoma of the skin after long-term treatment with azathioprine in patients with auto-immune inflammatory rheumatic diseases. J Eur Acad Dermatol Venereol 2014; 1: 27-33.

[11] Schaafsma RJ, Delaere KP, Theunissen PH. Squamous cell carcinoma of suprapubic cystostomy tract without bladder involvement. Spinal Cord 1999; 37: 373-374.