Case Report

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Rare Manifestation of the Cutaneous and Cervical Lymph Node Metastases of Urothelial Carcinoma of Urinary Bladder: A Case Report

방광요로상피암에서 드물게 나타나는 피부와 목 림프절로의 전이: 증례 보고

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Lymph node metastasis from bladder cancer mainly involves the external/internal iliac and obturator nodes as the primary lymphatic drainage sites of the bladder, and common iliac sites as the secondary drainage. Lymph node involvement above the diaphragm is rare. Metastasis to the head and neck region is associated with poor prognosis and low survival rate. Herein, we report a case of cervical cutaneous and lymph node metastases in a patient with bladder cancer. This is a rare case of advanced urothelial carcinoma presenting as an aggressive inflammatory process with extensive lymph node involvement, without bony or visceral metastasis.

Index terms Lymph Node; Metastasis; Urinary Bladder Cancer

INTRODUCTION

Bladder cancer is the 10th most common cause of cancer worldwide and the second most common genitourinary malignancy after prostate cancer (1, 2). Papillary urothelial carcino-

ma accounts for 90% of malignant tumors of the bladder and is highly aggressive with a high tendency to metastasize (3).

The most common lymph nodes involved in urothelial carcinoma of the urinary bladder are the external iliac, internal iliac, and obturator (20%–45%) lymph nodes due to the primary lymphatic drainage of the bladder and the common iliac sites due to the secondary drainage (4). However, lymph node metastasis above the diaphragm, particularly in the head and neck region, is extremely rare. Only a few reports have been published to date, but all of them have reported a poor prognosis. Herein, we report the case of a patient with urothelial carcinoma of urinary bladder with cervical lymph node metastasis mimicking an aggressive inflammatory change in the left-side of the neck.

CASE REPORT

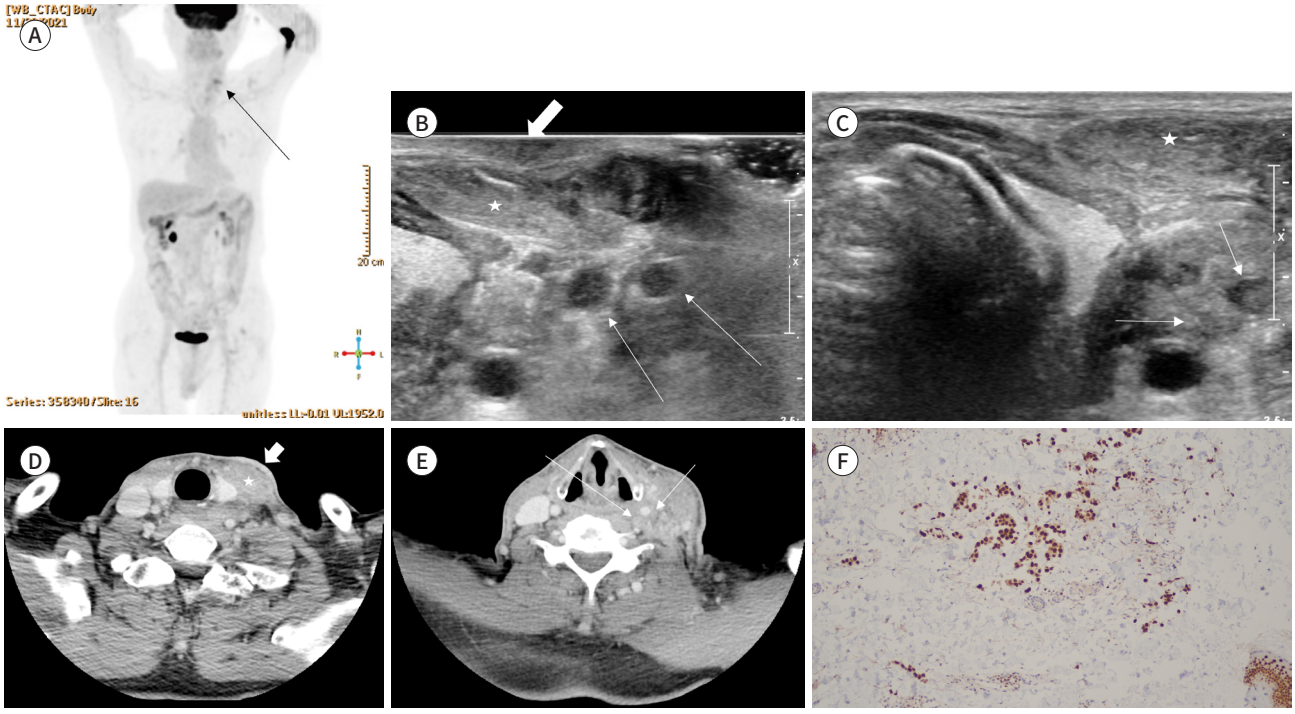
A 78-year-old male complained of discomfort and pain in the left lateral neck after vaccination (BNT162b2 [PfizerBioNTech]) in the left arm for corona virus disease 2019 (COVID-19) pneumonia 2 months prior to presentation. The patient was diagnosed in our hospital with urothelial carcinoma involving the left lateral wall of the bladder and underwent transurethral resection of bladder tumor for bladder cancer at a outside hospital 5 years prior. He was also diagnosed with well-differentiated adenocarcinoma of the colon, which had been treated with endoscopic submucosal dissection 1 year prior. On his last surveillance 2 months before presentation, PET/CT scan revealed newly developed mild hypermetabolic lesions in the left supraclavicular and upper paratracheal areas (maximum standardized uptake value = 3.68), suggesting the presence of lymphadenopathy (Fig. 1A). Reactive changes were considered because COVID-19 vaccination had been recently administered.

On physical examination, erythematous changes with localized skin thickening and tenderness were observed on the left lateral neck. Initially, neck ultrasonography (USG) (Philips L12-5 linear transducer, model IU22, Philips, Seattle, WA, USA) was performed (Fig. 1B, C), which revealed diffuse soft tissue thickening with a heterogeneous echoic change showing mixed hyperechoic and hypoechoic areas and multiple subcentimeter lymph nodes on the left neck level II-IV. An irregularly shaped hypoechoic area was also observed in the posterior part of the left lobe of the thyroid gland; the first impression was an aggressive inflammatory change with lymphadenitis of unknown origin or acute suppurative thyroiditis.

A subsequent neck CT scan with enhancement was performed (Fig. 1D, E), which revealed similar findings as the USG examination, including diffuse soft tissue thickening with increased attenuation and loss of tissue plane, localized cutaneous thickening with mild enhancement, and ill-defined small lymph nodes in the left neck level II-IV and the supraclavicular level.

Core needle biopsy was performed for pathological lymph node of neck level IV and soft tissue abnormalities of the left-sided neck. In histopathology, cervical lymph node specimen revealed metastatic carcinoma cells with micropapillary feature within lymphoid tissue favoring urothelial primary and skin lesion showed metastatic carcinoma cell clusters with micropapillary feature and GATA3 positive, favoring urothelial origin (Fig. 1F).

Fig. 1. Unusual cervical lymphnode and cutaneous metastasis in a 78-year-old male with a history of surgical excision of high-grade urothelial carcinoma of the bladder 5 years ago.
A. PET/CT image shows mid hypermetabolic lesions (arrow) in the left supraclavicular and upper paratracheal areas, with maximum standardized uptake value of 3.68.
B, C. Ultrasonography of the left neck shows diffuse soft tissue thickening with heterogeneous echoic change of subcutaneous layer (large arrow in B), multiple sub centimeter lymph nodes (narrow arrows), and SCM enlargement with loss of fat planes (★) in the left neck level IV.
D. Axial CT image of neck level shows left SCM enlargement (★) compared with the normal right SCM, and thickening of the skin covering the left neck level IV (arrow).
E. Axial CT image of neck shows several sub centimeter enhancing lymph nodes (arrows) under the left SCM with loss of fat plane and heterogeneous density around the abnormal lymph nodes and the left SCM.
F. Histopathology of the skin biopsy of left neck, level IV, (GATA-3 stained photomicrograph, × 100) shows positivity of the tumor cells favoring a urothelial origin.
SCM = sternocleidomastoid



DISCUSSION

Urothelial carcinoma of the bladder is regarded as highly aggressive due to early metastasis occuring in some cases. Metastasis of papillary urothelial carcinoma to cervical lymph nodes is very rare (5). Metastasis of bladder cancer to the head and neck region occurs via lymphatic or hematogenous dissemination (6).

Lymph node involvement in bladder cancer varies in frequency depending on the stage of the cancer. Approximately 30% of patients with stage T2 cancer and 60% of patients in whom the cancer extends into the perivesical tissue (stage T3 or greater) show lymph node involvement (7, 8). Early and accurate diagnosis of metastatic lymph nodes is important because it allows appropriate patients to be triaged for surgery.

Depending on the extent of local involvement at presentation, 5-year disease-free survival rate after treatment for bladder cancer is approximately 89% (2, 9). However, in bladder cancer patients with nodal involvement, the 5-year disease-free survival rate shows a marked de-

crease to no more than 35% (2, 9). In addition, the presence of cervical lymph node metastasis increases the likelihood of micrometastases, indicating an advanced staging (6). This emphasizes the role of imaging in enabling accurate diagnosis and staging of bladder cancer to provide appropriate care for patients and to establish an accurate prognosis (8, 10).

Cutaneous metastatic disease (CMD) of visceral carcinoma is rare, with an incidence rate ranging from 0.3% to 5.3%. CMD from urological cancers is rarer still, with an incidence of 0.73%. Cutaneous metastatic lesions are usually seen as cutaneous nodules. Our case showed unusual sonographic and CT (Fig. 1B-E) findings of aggressive inflammation-like changes in the left-sided neck including diffuse soft tissue thickening with heterogeneous echogenicity, increased attenuation and loss of tissue plane, and localized cutaneous thickening with mild enhancement. Our case also showed lymph node metastasis of the left lateral neck to the left paratracheal level, which was less than 5 mm in diameter, relatively smaller than the usual metastatic lymph nodes. Retrospective review of PET/CT performed 2 months prior (Fig. 1A) revealed only two hypermetabolic lesions of the left supraclavicular and upper paratracheal area. In the intervening two months, skin lesions presenting as inflammatory changes in the left lateral neck progressed.

In conclusion, we describe a case of an unusual manifestation of urothelial bladder cancer metastasis involving the left lateral neck, mimicking inflammation. Radiologists and clinicians should consider metastasis from papillary urothelial carcinoma of the urinary bladder when cutaneous and lymph node involvement of the neck are present on USG and should confirm the histopathology of suspicious lesion through core-needle biopsy.

Author Contributions

Conceptualization, S.W.Y., P.N.H.; supervision, P.N.H.; visualization, P.N.H., J.Y.Y.; writing—original draft, S.W.Y.; and writing—review & editing, all authors.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

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방광요로상피암에서 드물게 나타나는 피부와 목 림프절로의 전이: 증례 보고

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방광암의 림프절 전이는 방광의 림프순환에서 처음과 두 번째로 거쳐 가는 외/내 장골, 폐쇄 림프절과 총장골림프절에서 주로 일어난다. 방광암에서 횡격막을 넘어서 일어나는 전이는 드물고, 두경부로의 전이는 예후가 좋지 않으며 생존율도 낮다. 방광요로상피암 환자에서 뼈나 그 외에 고형장기로의 전이 없이 목 피부의 염증성 변화와 함께 림프절전이를 동반하는 것은 드문 증례이므로 이에 보고하고자 한다.

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