



Synchronous Primary Malignancy of Urinary Bladder and Kidney: A Rare Case Report

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Abstract

A 73yr old male with painless gross hematuria was diagnosed to have muscle invasive urinary bladder carcinoma together with renal cell carcinoma of left kidney. This article covers the presentation, radiology, pathology, and in-tervention of an uncommon case of synchronous primary carcinomas.

Keywords: Thulium laser; Multiple Primary Malignant Neoplasms; Urological Cancer

Introduction

Occurrence of multiple primary malignant neoplasms in the same individual was first described by Billroth [1]. Following this, numerous cases of double and/or triple malignant neoplasms have been identified, with a higher tendency in old-aged patients. Amongst this, second primary neoplasms are diagnosed at a higher rate owing to the enhancement in survival rate of patients that have received prior chemo- and or radiotherapy treatment against different cancer types. It has been noticed that the occurrence of secondary primary neoplasms is common in the upper digestive tract, respiratory system, head and neck region, or urogenital system [2,3].

Case Report

A 73 yr old man presented to us complaints of painless gross hematuria for seven consecutive days; this was associated with passage of clots but no other urinary complaints. He neither had history of tobacco intake nor diabetes or hypertension. Upon clinical examination, he showed no significant general physical finding, in fact his local examination was also unremarkable except that he had grade 2 prostatic adenoma. Various laboratory parameters were also

found to be within normal limit, cytological analysis of urine was found to be negative for atypical cells. On imaging (CECT abdomen and pelvis), he was diagnosed to have a bladder growth involving right lateral wall of bladder and a mass involving the mid polar region of left kidney with no evidence of nodal or distant metastasis.

Following diagnosis and evaluation, patient was planned for transurethral resection of bladder tumour and partial nephrectomy for left renal mass. The histopathology report from bladder growth showed the presence of high grade muscle invasive papillary urothelial carcinoma. Patient was staged and planned for neoadjuvant chemotherapy (cisplatin and gemcitabine) followed by radical cystectomy. Patient underwent radical cystectomy with ileal conduit and partial nephrectomy of left kidney mass using Thulium: YAG laser. Patient had uneventful course of post-operative stay and was discharged seventh day post operation.

Taken together, the histopathology report suggested 3x3x1cm clear cell carcinoma Fuhrman's nuclear grade 2 with no involvement of Gerota's fascia and high grade invasive papillary urothelial carcinoma with no nodal and perivesical fat involvement.

Discussion

Occurrence of multiple primary tumor had been attributed to various factors: genetic, environmental, iatrogenic, and hormonal. Warren and Gates had proposed a criterion for MPMNs diagnoses: (a) every tumour should be malignant, (b) neoplasms to be histologically distinct, and (c) metastatic link must be excluded. Notably, 9 - 10% of malignancies diagnosed in the United States are second primary tumors, and genitourinary system showed susceptibility for the development of multiple primary malignant neoplasms. For example, the relative risk of a second primary neoplasm increased 1.11 times per month, following a urologic malignancy [4,5].

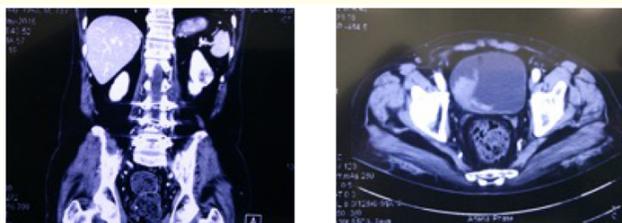


Figure 1: CECT image of the abdomen (left) and pelvis (right).

Salminen, *et al.* followed up bladder cancer patients for the occurrence of double malignancy over the period of ~37 years. It was reported that amongst a total of 10,014 patients, 652 developed metachronous lesions, 195 developed lung cancer, and 35 developed renal cell carcinoma. Likewise, in another study by Kotake, *et al.* most cases of bladder cancer were found to be associated with other urological cancers and two were synchronous [6].

However, the association of renal cell carcinoma with these cancers in a synchronous way is very rare. In the present study, we were able to successfully diagnose two separate primary malignancies: one in kidney and bladder in a 73-year-old patient. MPMNs of the genitourinary system are uncommon. In a review of literature, we found only 24 cases for simultaneous renal cell carcinoma and transitional cell carcinoma of the bladder, out of which 17 had been reported from Japan.

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