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Case Study

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SYNCHRONOUS RENAL CELL CARCINOMA AND TRANSITIONAL CELL CARCINOMA OF URINARY BLADDER: A RARE CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Introduction: Simultaneous occurrence of different primary genitourinary malignancies is a rare entity. First case of simultaneous dual urological malignancy was reported by Graves and Templeton in 1921. Since then many cases of dual or triple genitourinary malignancy have been reported but due to limited literature treatment has not been standardized and poses a challenge in its management. **Case summary**: 73/M presented with complaints of hematuria with clot retention from 6 hours and painless hematuria from 15 days. Hematological profile showed neutrophilic predominant leucocytosis. CECT abdomen showed heterogeneously enhancing mass lesion at middle and lower pole of left kidney 72 x 67 x 65 mm with normal right kidney and a small nodular hypotense lesion in right lateral wall of urinary bladder. Patient was planned for Cystoscopy and left open Radical Nephrectomy. Cystoscopy showed mass on right lateral wall of bladder for which TURBT was done. Postoperative period was uneventful. Histopathological examination showed left Renal cell carcinoma clear cell type (Fuhrman grade III) ($pT\ _3N_xM_X$). TURBT chips showed high grade TCC (pT1NoMo). Patient is currently on regular follow up from 15 months with no evidence of recurrence. **Discussion:** Synchronous occurrence of multiple urological malignancies is a rare finding. Review of literature shows that RCC is associated with prostate, bladder, rectal cancer, non-Hodgkin's lymphoma and lung cancer on long-term follow-up. Association with these in a synchronous way is very rare. So there is a great need for careful diagnostic work-up to detect others in the presence of one. Similar case was reported by Srinath et al in year 2005 for which radical nephro-uretectomy was done. Similarly in a study done by Nienie et al on 17 cases of concurrent RCC with TCC bladder none of cases emerged with ureter recurrence during follow up. So we believe that management plans should be individualized.

INTRODUCTION

Simultaneous occurrence of multiple primary neoplasms in a single individual is a rare entity and poses a challenge in its management. This phenomenon was first described by Bilroth et al in 19 century.[1] Occurrence of different primary genitourinary malignancies in a same individual is also quite rare.[2] First case of simultaneous dual urological malignancy was reported by Graves and Templeton in 1921.[3] Since then many cases of dual or triple genitourinary malignancy have been reported in literature.[4] Renal cell carcinoma (RCC) is mainly a disease of elderly and typically presents in the sixth and seventh decades of life accounting for 3% of all adult cancers and 85% of all kidney tumors.[5] Whereas Transitional cell carcinoma (TCC) of urinary bladder is the fourth most common cancer in men and eighth most common malignancy in women in the Western world.[6]

Multiple reports are published regarding simultaneous occurrence of renal cell carcinoma and transitional cell carcinoma of same kidney, ureter or urinary bladder but due to limited literature treatment has not been standardized and treatment outcomes are still uncertain.[7] Here we present a case of renal cell carcinoma of left kidney with transitional cell carcinoma in urinary bladder managed at a tertiary care level centre in Uttrakhand India.

CASE SUMMARY

A 73 year old male presented to emergency with complaints of hematuria with clot retention from 6 hours for which patient was catheterized with a triway Foley catheter and bladder irrigation was given. Patient was having painless hematuria from 15 days. On examination abdomen was soft, non tender non distended and no obvious mass was palpable. On routine blood investigations his renal function tests were in normal

limits, in hematological profile patient has mild neutrophilic predominant leucocytosis. On radiological investigations USG shows 62 x 65 mm hypoechoeic mass with mixed echogenicity arising from midpole of left kidney with a 22 x 18 mm solitary mass arising from the right lateral wall of urinary bladder along the base of bladder. On CECT abdomen a large well demarcated heterogeneously enhancing mass lesion was identified at middle and lower pole of left kidney of size 72 x 67 x 65 mm with normal right kidney and a small nodular hypotense lesion in right lateral wall of urinary bladder with contrast enhancement (Fig 1 and Fig 2). Patient was then planned for Cystoscopy and left open Radical Nephrectomy under GA. Cystoscopy showed a papillary mass on right lateral wall of bladder (Fig 3) for which TURBT was done and Radical Nephrectomy was done from modified Cheveron incision. Postoperative period was uneventful. Drain removed on POD 4 and patient was discharged on POD 10 after suture removal.

On histopathological examination left kidney showed a large growth involving the mid pole and lower pole (Fig 4). The growth measures 68x 65x 35 mm. Sections show renal cell carcinoma clear cell type (Fuhrman grade III) (Fig 5) with tumor infiltration present till gerota fascia (pathological classification pT $_3N_xM_X$). TURBT chips showed high grade Urothelial Carcinoma with mild lymphocytic infiltrates (pT1NoMo) (Fig 6). Patient is now on regular surveillance for any reoccurrence since 15 months and so far the patient is disease free.

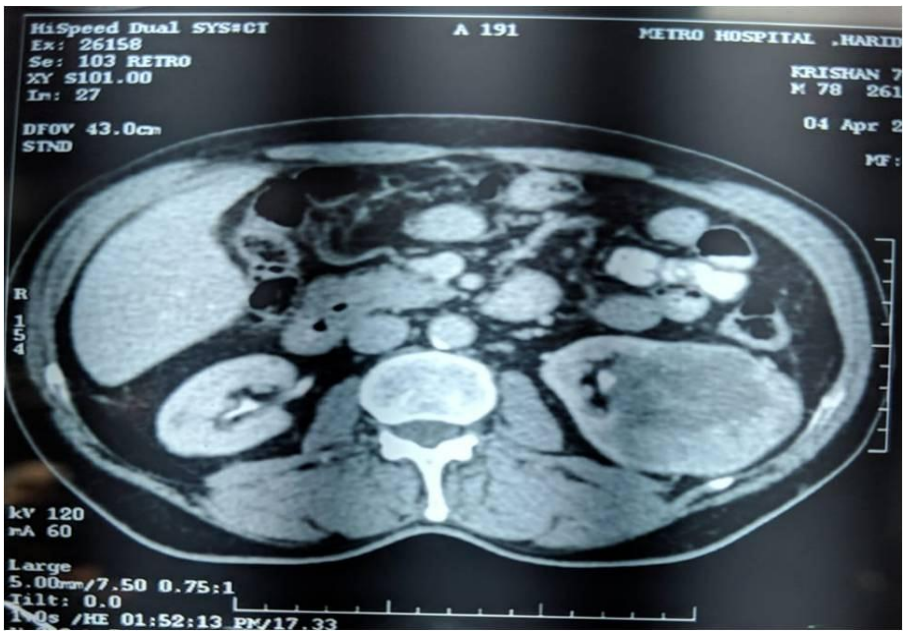

Fig. 1: CECT Abdomen Image Showing Left Renal Lobulated Mass.

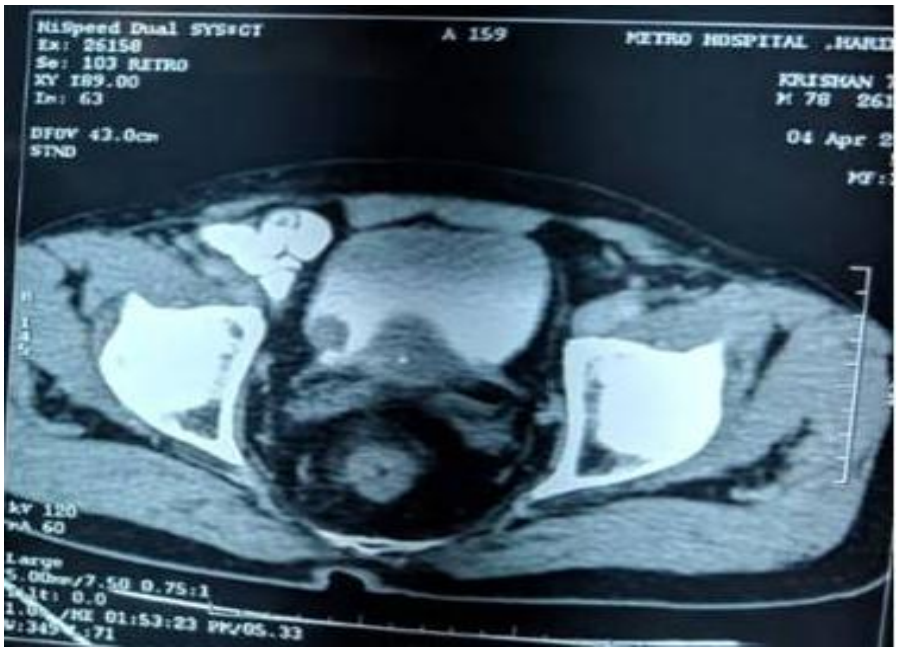

Fig. 2: Small Nodular Hypotense Lesion In Right Lateral Wall of Urinary Bladder With Contrast Enhancement.

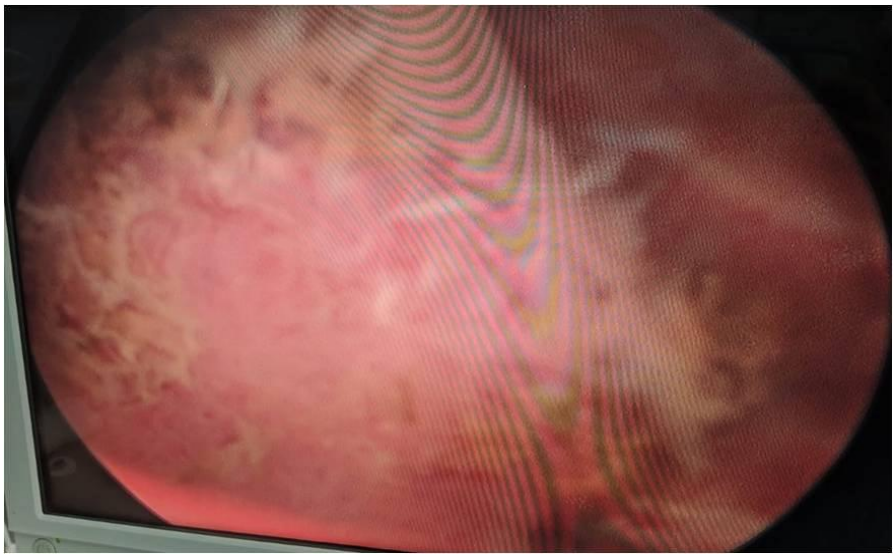

Fig. 3: Cystoscopy Showed A Papillary Mass On Right Lateral Wall Of Bladder.

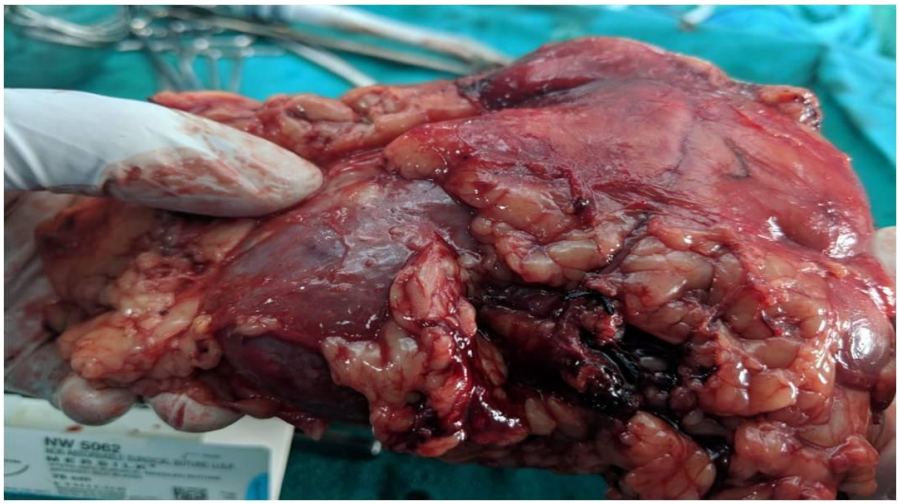

Fig. 4: Left Enlarged Kidney Showed A Bosselated Outer Surface With A Large Grayish White Solid Growth With Papillary Like Structure Involving The Middle Portion And Lower Pole.

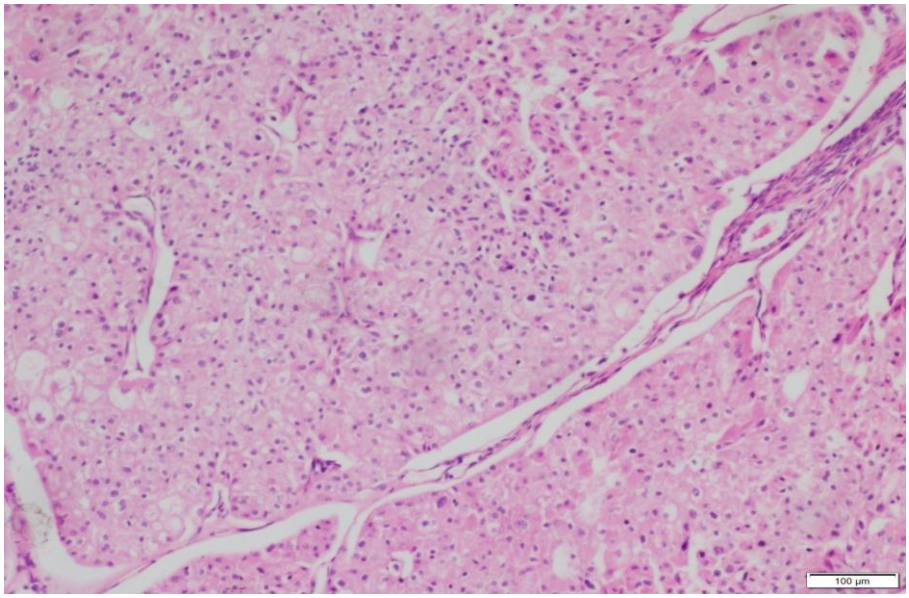

Fig. 5: Show Renal Cell Carcinoma Clear Cell Type Involving Middle and Lower Pole. Cells with Round To Oval Nuclei With Few Prominent Nucleoli (Fuhrman Grade III).

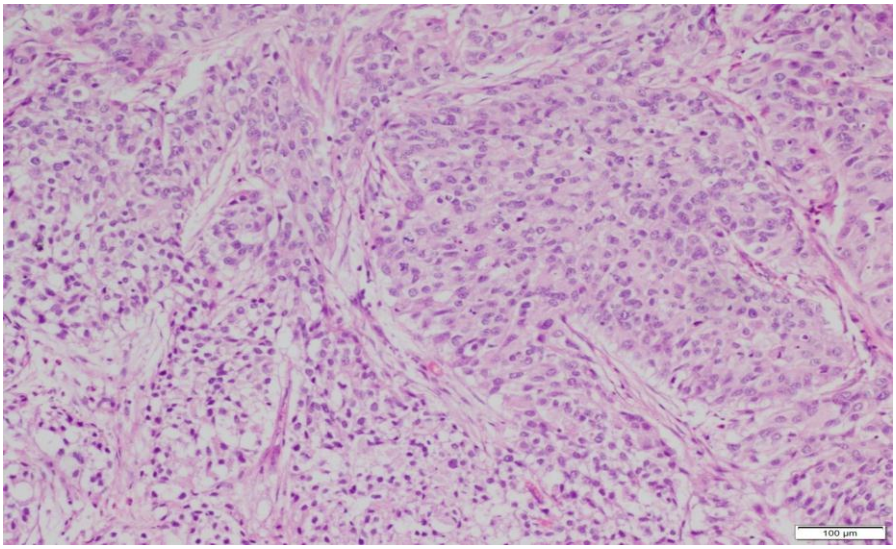

Fig. 6: High Grade Urothelial Carcinoma Arranged In Broad Fused Papillae And Solid Nests With Smooth Muscles Bundle Free Of Malignancy With Mild Lymphocytic Infiltrates.

DISCUSSION

Synchronous occurrence of multiple urological malignancies is a rare finding and only limited numbers of cases have been reported in literature throughout the world. Review of literature shows that renal cell carcinoma is associated with prostate or bladder or rectal cancer, non-Hodgkin's lymphoma, melanoma and lung cancer on long-term follow-up.[8] However, the association of renal cell carcinoma with these cancers in a synchronous way is very rare. So there is a great need for careful diagnostic work-up to detect others in the presence of one. However due to increase in prevalence of genitourinary tumors there is reasonably increased diagnosis of synchronous tumors.[4] For each malignancy there are many predisposing and direct and indirect causal factors and when factors are common between any two malignancies the patient has higher chances of getting another malignancy. This phenomenon is seen in common carcinogen exposure such as alcohol, tobacco, genetic predisposition, Li-Fraumeni syndrome or as a side effect of treatment with chemotherapy.[9] Similar case was reported by Srinath et al in year 2005 for which radical nephro-uretectomy was done to avoid leaving ureteral stump. Similarly in a long term follow up study done by Nienie et al which included 17 cases of concurrent RCC with bladder tumor it was identified that none of cases either of partial nephrectomy or radical nephrectomy emerged with ureter recurrence during follow up. So we believe that management plans should be individualized. In our case in view of Ultrasound and CECT abdomen findings patient was offered left radical Nephrectomy leaving the left ureteral stump which will require regular surveillance. Patient is currently on regular follow up with regular Cystoscopy and ultrasound whole abdomen and there is no evidence of any recurrence after 15 months of surgery.

CONCLUSION

Simultaneous occurrence of dual urological malignancies is rare but due to increase in the incidence of genitourinary tumors there is more number of synchronous tumors. So there is need of careful diagnostic work-up to search for another malignancy in presence of one. And secondly there is need of treatment standardization for proper evaluation and treatment outcomes.

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