



CASE REPORT ON UROTHELIAL CANCER WITH CLEAR CELL CHANGE

Histopathology

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ABSTRACT

We present a case report on Urothelial Carcinoma with Clear cell change. Bladder cancer is one of the most common cancers worldwide with most prevalent being the Urothelial Carcinoma. Among the various variants of Urothelial cancers, clear cell variant is rare and reported infrequently. We present a case of a 70 years old female who presented to our hospital with hematuria and urinary retention. On CT abdomen a lobulated solid mass was seen in the right posterolateral wall. On TURBT a diagnosis of Urothelial Cancer with Clear cell change (>80%) was given which was confirmed on IHC. We report the cases due to its rare diagnosis and infrequent publication.

KEYWORDS

Clear cell, Cancer, Urinary bladder, Urothelial carcinoma

INTRODUCTION

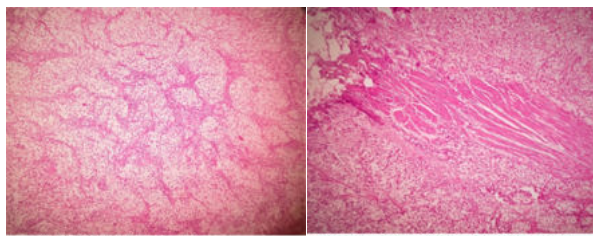
Urinary Bladder Cancer is among the top ten most common cancer types in the world with approximately 5,50,000 new cases annually.¹ The most common histological types of bladder cancer is urothelial carcinoma (UC) and its ten different variants recognized by WHO.² Variants like squamous cell carcinomas, adenocarcinomas, and undifferentiated carcinomas have been extensively described. In contrast, clear cell urothelial carcinoma (CCUC) of the urinary bladder is a rare neoplasm with very few published literatures available. It is important to rule out metastatic disease of Renal Cell Carcinoma or melanoma.

CASE REPORT

A 70 years old female presented to our hospital with hematuria and urinary retention. On CT abdomen and pelvis, a lobulated heterogeneously enhancing solid mass lesion involving the right posterolateral wall of bladder protruding into the lumen was observed suggestive of bladder tumor.

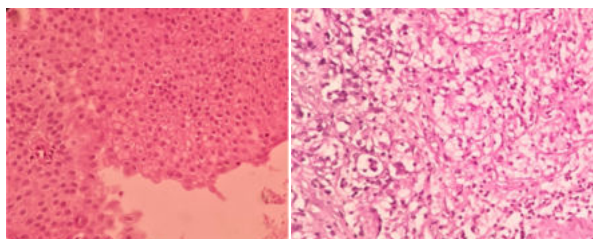
Transurethral resection of Bladder tumor (TURBT) was done and we received 2 specimens labeled TURBT Superficial and TURBT deep containing gray white to gray brown soft tissue pieces measuring 3.5 cm³ and 1 cm³ respectively.

The histopathological examination of the specimen revealed sheets and clusters of round to polygonal cells having mild to moderate nuclear pleomorphism, variably conspicuous nucleoli and abundant clear cytoplasm. >80% of the tumor was comprised of such clear cells. Also foci of High grade papillary urothelial cell carcinoma were seen with invasion into the deep muscle layer. The histopathological diagnosis of High grade urothelial Carcinoma with clear cell change (>80%) with deep muscle invasion was made.



10x view of TURBT specimen with clusters of clear tumor cells

10x view of TURBT specimen with clear tumor cells invading muscularis



10x view of TURBT specimen with foci of High grade urothelial carcinoma

10x view of PAS stain on Clear cell urothelial carcinoma

Immunohistochemistry was done for markers CK7, Uroplakin, GATA 3, CK20, Napsin A, CEA, Vimentin. The results were as follows

IHC Markers	Results
GATA3	Immunoreactive, Score 4+ in neoplastic cells
Uroplakin	Immunoreactive, Score 3+ in neoplastic cells
CK-7	Immunoreactive, Score 4+ in neoplastic cells
CK-20	Non-Immunoreactive
Napsin-A	Non-Immunoreactive
CEA	Immunoreactive, Score 1+ in neoplastic cells
Vimentin	Non-Immunoreactive

The impression of High grade Urothelial Carcinoma was given by IHC studies.

DISCUSSION

In bladder Clear cell change can be seen in various entities. Clear cell metaplasia³ is a common finding in bladder. It is seen as replacement of transitional mucosa by cells with abundant clear cytoplasm, nuclear enlargement, and a granular chromatin pattern. Even in urothelial Cancers clear cells can be seen.

Primary Clear cell adenocarcinoma^{4,5} are also reported in bladder resembling that of genital tract adenocarcinoma. Other metastatic diseases⁶ like Renal cell carcinoma or Melanoma can also be seen in bladder with clear cells.

However, Clear Cell Variant of Urothelial Carcinoma is rare and infrequently reported. IHC has helped to differentiate it from other mimickers of clear cell change in urothelial carcinoma. Due to its rarity not much is known about the prognosis and clinical course of the disease. However, our patient is alive at this point of writing and recently under gone cystectomy and receiving chemoradiotherapy.

CONFLICTS OF INTEREST

None

SOURCE OF FUNDING

None

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