Primary Mucinous Adenocarcinoma of Urinary Bladder

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Objective: To report an unusual case of primary mucinous adenocarcinoma of urinary bladder.

Background: Primary adenocarcinoma of the bladder is uncommon, representing only 2% of all malignant tumors of the organ. The mucinous subtype is rare, constituting approximately 20% of these tumors. They carry poor response to radiation and chemotherapy. Because of the rarity of primary mucinous adenocarcinoma it is quite difficult to distinguish them morphologically from metastatic colorectal adenocarcinoma.

Case Presentation: A 40 year old patient resident of Islamabad presented with symptoms of hematuria. We received the H & E slides for review from another hospital. After reviewing the slides and with the help of immunohistochemistry he was diagnosed with primary mucinous adenocarcinoma of urinary bladder.

Conclusion: Mucinous adenocarcinoma of the bladder is rare entity which is difficult to diagnose through conventional methods. Morphology alone is not sufficient for its diagnosis, for this reason immunohistochemistry has major importance in achieving final diagnosis.

Keywords: Primary mucinous adenocarcinoma, Colorectal adenocarcinoma.

Case Presentation

A 33 year old male resident of Rawalpindi presented with bladder mass since 1 year with the symptom of painless hematuria. The physical and digital rectal examination were unremarkable. The ultrasound showed a well-defined, polypoidal, fungating lesion measuring 4.7x3.3 cm along anterior bladder wall projecting into bladder lumen. CT scan ruled out any other primary site of tumor.

We received the bladder mass following trans urethral resection of bladder tumor ( TURBT ). Microscopic examination revealed infiltration by neoplastic cells floating in mucinous pools. These cells were present in groups and a scattered cells in mucin. Ill-defined glandular formations were also seen. Neoplastic cells have hyperchromatic, pleomorphic nuclei and high N/C ratio (Figure.1). It was reported as mucinous adenocarcinoma, immunohistochemistry was suggested to distinguish between primary mucinous carcinoma of bladder from metastatic (Figure. 2).

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Figure-1: H&E stained slide showing glandular formation
Discussion

Primary mucinous adenocarcinoma of bladder is a rare and aggressive malignant tumor accounting for 0.5 to 2% of all vesical tumors.\textsuperscript{3} It is thought to arise as result of progression from mucinous metaplasia to mucinous adenoma and then mucinous adenocarcinoma. Morten et al\textsuperscript{4} in his study supported it with quantitative fluorescent in situ hybridization (FISH) demonstrating telomerase shortening and cytogenetic abnormalities associated with urinary specimens. It is more common in males in their sixth decade of life. The most common presenting symptoms are hematuria, suprapubic pain and voiding difficulties. Primary bladder adenocarcinoma are divided into urachal and non-urachal adenocarcinoma respectively based on their location, the later being the most common.\textsuperscript{5} The hall mark of this tumor is glandular formation similar to colorectal carcinoma, once encountered in bladder primary from other sites need to be ruled out.\textsuperscript{6} Based on morphology it is classified as follows adenocarcinoma not otherwise specified, colonic type, mucinous, signet ring cell, clear cell type, hepatoid and mixed type.\textsuperscript{7} Bladder adenocarcinoma needs to be distinguished from metastatic adenocarcinoma from sites like colon, prostate and stomach.\textsuperscript{8} The immunohistochemical panel used to distinguish vesical from colorectal adenocarcinoma include CK 7, CK 20, CDX2, B-catenin. CK 7 and CK 20 positive in more than half of bladder adenocarcinoma but CK 7 negative and CK 20 positive in 29% of primary vesical adenocarcinoma thus it doesn’t discriminate between the two. B catenin exhibits nuclear staining in 81% of primary colorectal adenocarcinoma while membranous staining in 88% of primary vesical adenocarcinoma.\textsuperscript{9} Hence it’s a good marker for distinguishing between the two entities.

The prognosis depends on the stage of disease, 5 year survival of 70-100% in patients with tumor confined to bladder, however less than 30% present at early stage. Diagnosis is made on cystoscopy, urinary cytology and transurethral resection of bladder (TURBT). Surgery is the main stay of treatment.

Conclusion

Primary mucinous adenocarcinoma of the bladder is rare and it is not easy to distinguish it from metastatic colorectal adenocarcinoma. Immunohistochemistry has the main role in assisting the differential.

References


**HISTORY**

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