



## Case Report

# **Adenocarcinoma of urinary bladder in 55 years old male patient - A rare case report**

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## **Abstract**

Adenocarcinoma of urinary bladder is rather rare and so that here we present the case of a 55 years old male patient who presented with hematuria and diagnosed as adenocarcinoma of the urinary bladder. Because of no specific characteristics for symptoms, signs and accessory examinations compared with common urothelial carcinoma, adenocarcinoma of urinary bladder was diagnosed mainly on histopathology and with the help of Immunohistochemistry (IHC). For recurrent tumor after transurethral resection of bladder tissue (TUR-BT), the patient should undergo total cystectomy or radical surgery.

## **Key words**

Urinary bladder, Adenocarcinoma, Histopathology.

## **Introduction**

Urinary bladder cancer is the second most frequent tumor of the genito-urinary tract [1]. It causes more than 3,30,000 new cases each year and more than 1,30,000 deaths per year. Its generally estimated male: female incidence ratio is 3.8: 1.0. At any point in time, 2.7 million people have a history of urinary bladder cancer [2]. The histological and pathological type of

bladder cancer is mainly urothelial carcinoma, also called transitional cell carcinoma, accounting for approximately 90% [3]. Other types including squamous cell carcinoma and adenocarcinoma, account for 3-7% and < 2% respectively [4]. As adenocarcinoma of bladder is rather rare, here we present the case of a 55 years old male patient who presented with hematuria and diagnosed as adenocarcinoma of the urinary bladder. Main purpose to present

this case is to add an additional case to the literature.

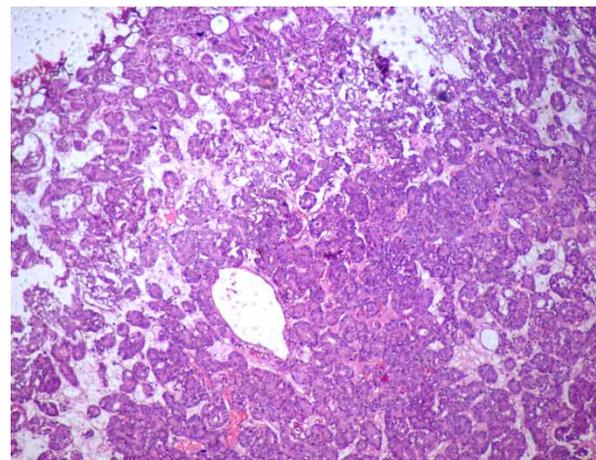
### Case report

A 55 years old male patient from poor socio-economic class presented with pain in the right lumbar region and burning micturition since 2 months. He was also complaining of red discoloration of urine since 20 days which was intermittent with clots. He had lost 3 kg weight over last 2 months and was also having anorexia. He denied as use of drug history. He had past history of pyelolithotomy before 5 years. On per abdomen examination, patient had tenderness in right lumbar region. There was no hepatomegaly or splenomegaly. His vitals were unremarkable. On investigations, his haemoglobin was 13.2 gm%, white blood cell count was 6500/cmm and platelet count was 2.17 lac/cmm. On microscopic examination of urine showed plenty of red blood cells (RBCs). His serum for HIV, HBs Ag were negative and renal function test, liver function test and random blood sugar were within the reference range. CT abdomen pelvis showed mass arised from base of bladder. **(Photo – 1)** TUR-BT was done and the tissue was sent to histopathology department. Tumor tissue was fixed in 10% formalin solution and routinely processed. Sections from the paraffin block were cut with thickness of 5 micron and stained by hematoxylin and eosin (H & E) stain. Microscopic examination showed that the tumor cells predominantly arranged in glandular pattern and at places in solid sheets. **(Photo - 2, Photo – 3)** The individual cells were large, pleomorphic showing prominent nucleoli and hyperchromatism. **(Photo – 4)** Final diagnosis was given as adenocarcinoma of urinary bladder.

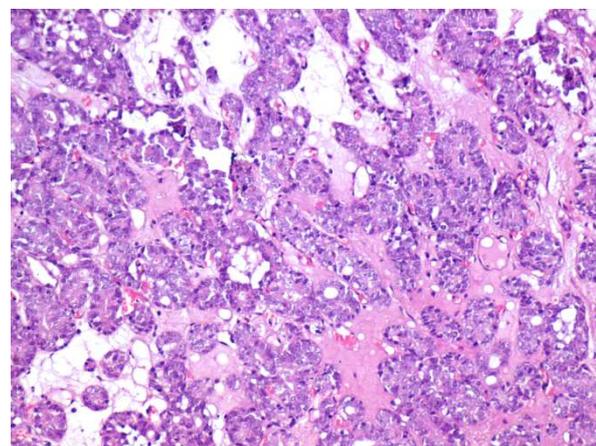
**Photo – 1:** CT abdomen and pelvis showing mass lesion arise from the base of the urinary bladder.



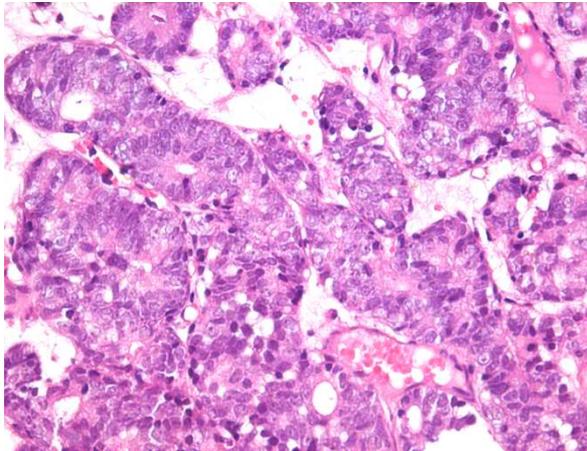
**Photo – 2:** Tumor cells predominantly arranged in glandular pattern and at places in solid sheets. (4X, H & E Stain)



**Photo – 3:** Tumor cells in glandular pattern. (10X, H & E Stain)



**Photo – 4:** Large, pleomorphic tumor cells with prominent nucleoli and hyperchromatism. (40X, H & E Stain)



## Discussion

The normal bladder mucosa is lined by transitional cell epithelium with absence of glandular epithelium. The formation of adenocarcinoma in an organ which normally does not contain glandular tissue is fairly rare. The majority of primary adenocarcinomas of the urinary bladder (50-60%) arise at the bladder base and almost all of the remaining is associated with urachal remnants [5]. In our case also the bladder mass was arised from the base of the bladder. The male to female ratio of non-urachal neoplasms approaches 3 to 1, in contrast to almost 1 to 1 for urachal tumors. Most patients are middle-aged (mean, approximately 62 years). Hematuria is the most common presenting sign, manifested in about 90% of patients. Almost half of the patients complain about dysuria, nocturia, frequency and pain. Our patient also presented with hematuria, burning micturition and pain.

The precise etiology of the adenocarcinoma of bladder is still not clear though there are two possible theories which has gained widest acceptance.

- The metaplastic change of the normal urothelium to a mucinous or glandular epithelium
- The embryologic persistence of endodermal intestinal tissue [6].

In the former one, chronic irritation (infection, calculi, indwelling catheters) and exposure to carcinogens may induce epithelial proliferation forming epithelial nests (Brunner nests), then some of them may become cystically dilated (cystitis cystica) or differentiates into columnar mucin-secreting glands (cystitis glandularis). Malignant transformation of mainly metaplastic intestinal-type epithelium associated with cystitis glandularis results in an adenocarcinoma of the urinary bladder [5, 7, 8, 9]. Such tumors are located most commonly in the trigone. The latter mechanism is proposed for neoplastic transformation of the glandular epithelium lining the intra vesical portion of the urachal remnants. Consequently, neoplasms arising from the urachal origin are usually found in the dome and anterior wall of bladder [5].

Adenocarcinomas of the urinary bladder, regardless of site, include the following histologic variations.

- Adenocarcinoma non otherwise specified
- Adenocarcinoma of enteric type
- Adenocarcinoma with signet-ring cells
- Mucinous adenocarcinoma
- Clear cell adenocarcinoma
- Hepatoid adenocarcinoma
- Mixed adenocarcinoma [10].

Colonic and glandular NOS are the most frequent varieties [11]. In a series of 72 adenocarcinoma cases Grignon JD, et al. found that NOS category was the most frequent one, mixed type was the least seen one [8]. In our case also histological examination of the bladder



mass revealed the diagnosis of adenocarcinoma NOS category.

On histological examination, whenever adenocarcinoma is diagnosed in the urinary bladder, total three possibilities will be there.

- Metastatic colonic adenocarcinoma
- Urachal carcinoma
- Primary adenocarcinoma of the urinary bladder [7].

For the differentiation of these entities immunohistochemistry (IHC) is required. The adenocarcinoma of the urinary bladder expresses CEA, CDX-2, MUC-1, MUC-2 and MUC-3, same as colonic adenocarcinoma. Cytokeratins 7 and 20 are positive, in contrast with colonic adenocarcinoma that expresses cytokeratin 20 but not cytokeratin 7 [12]. For the diagnosis of urachal carcinoma, it was justifiable to consider all adenocarcinomas of the dome as urachal unless a transition from non-neoplastic bladder epithelium to adenocarcinoma was demonstrated [8, 9]. Differentiation between urachal and non-urachal carcinoma is required because there is waste difference in the treatment modalities of both.

Our patient underwent TUR-BT only. If the tumor is recurrent after TUR-BT then the patient should undergo total cystectomy or radical surgery. The radiotherapy and chemotherapy may be helpful. Prognosis varies with stage, with survival approaching 75-100% among patients whose tumours are confined to the urinary bladder. Unfortunately, low-stage cancers account for fewer than 30% of reported cases [13]. Patients with urachal tumours tend to have a better short-term survival rate than those with non-urachal cancers [14].

## Conclusion

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Because of no specific characteristics for symptoms, signs and accessory examinations compared with common urothelial carcinoma, adenocarcinoma was diagnosed mainly on histopathology and with the help of Immunohistochemistry (IHC). Once the diagnosis is confirmed, the radical surgery should be advised which abolish the risk of recurrence.

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