CASE REPORT

ADENOCARCINOMA OF BLADDER-SIGNET RING CELL MUCINOUS VARIANT

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ABSTRACT: Mucinous adenocarcinoma of the urinary bladder is a rare variant constituting approximately 0.5% to 2.0% of all primary carcinomas of the bladder. This tumor initially presents as a high-grade, high-stage lesion and diffusely invades the bladder wall without forming intraluminal growth. The patients have no specific symptoms, which leads to delayed diagnosis and poor prognosis. A case of adenocarcinoma of bladder in a 32years old male was presented with clinical hematuria was reported.

KEYWORDS: Signet ring cell, mucinous, adenocarcinoma.

INTRODUCTION: Mucinous adenocarcinoma is a rare neoplasm of the urinary bladder. Less than 100 cases were described after Saphir reported the first two cases in 1955.¹ A case of mucinous adenocarcinoma of the urinary bladder had been reported with a review of the current literature.

CASE HISTORY: A 32years old marketing executive was presented with a history of passing frank blood at the end of micturition for ten months duration. No similar complaints in the past. Complete hemogram, urine examination, renal function tests, coagulation profile, prothrombin time had been done and were found to be normal. Computerized tomography (CT), KUB plain and contrast reveals, a well-defined mildly enhancing lobulated polypoidal lesion with few calcific foci measuring 2.9×2.7cms noted arising from the anterior wall of the urinary bladder (Fig. 1).

No significant pelvic lymphadenopathy was noted. Transurethral resection was done and the specimen was sent in bits measuring 3ml in aggregate for histological examination. Microscopic examination revealed the features consistent with the diagnosis of mucin secreting adenocarcinoma of bladder (Fig. 2) with significant presence of signet ring cells.

DISCUSSION: Urothelial carcinomas constitute ninety percent of malignant bladder tumors. Remaining ten percent of tumors represent sarcomas and others. Primary adenocarcinomas of the bladder are rare, malignant neoplasms derived from transitional epithelium showing histologically pure glandular phenotype, representing 2.5% of all malignant bladder neoplasms. They arise through process of metaplasia of the urothelium and frequently associated with long standing local irritation³like schistosomiasis and renal stones.

Ninety percent of carcinomas are associated with bladder exstrophy.⁴ These tumors more commonly in males than females, with a peak incidence of sixth decade of life.² The site of origin was from the trigone and posterior wall. Patient typically presents with history of hematuria because of large dilated blood vessels (Fig. 3 & Fig. 4). Two thirds of adenocarcinoma is single discrete lesions where transitional cell carcinoma tends to be multifocal.⁵

Grossly the tumor presents with papillary, nodular or flat and ulcerated. Microscopically the tumor composed of colonic type of glandular epithelium (Fig. 5) and often contains abundant extra

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cellular mucin. Regardless of histologic pattern, cystitis cystica et glandularis or surface glandular metaplasia is commonly present in the adjacent benign urothelium. Most adenocarcinomas had a tendency to infiltrate the muscularis (Fig. 8) at the time of initial diagnosis.⁶ In differential diagnosis one must exclude the possibility of adenocarcinoma metastasis probably from rectum, prostate, appendix or endometrium.⁷

HISTOLOGICAL VARIANTS OF ADENOCARCINOMA:

1. Adenocarcinoma of not otherwise specified.
2. Enteric (colonic) type.
3. Signet ring cell type.
4. Mucinous clear cell.
5. Hepatoid.
6. Mixed.
7. Urachal.

SIGNET RING CELL (Fig. 6) CARCINOMA OF THE BLADDER⁸: Rare variant, fewer than 70 cases were reported. It composed entirely of signet ring or poorly differentiated round cells with intracytoplasmic mucin and without abundant intracellular mucin. Some signet ring cells show prominent plasmacytoid features. These tumors tend to infiltrate the bladder wall diffusely or extensively throughout the adjacent structures making primary resection impossible.

MUCINOUS (Fig. 7) TYPE: Tumors that show abundant mucin and tumor cell clusters apparently floating in mucin are classified under mucinous variant.

DIFFERENTIAL DIAGNOSIS:

1. Typical urothelial carcinoma with extensive glandular differentiation.
2. Nephrogenic adenoma.
3. Endometriosis and endocervicosis.
4. Metastatic adenocarcinoma.

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Fig. 1: COMPUTERISED TOMOGRAPHY KUB PLAIN AND CONTRAST

A well-defined mildly enhancing lobulated polypoidal lesion with few calcific foci measuring 2.9×2.7cms noted arising from the anterior wall of the urinary bladder. No significant pelvic lymphadenopathy noted.

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MICROSCOPIC PICTURES: H&E SECTIONS

Fig. 2: 4X

Fig. 2: 10X

Fig. 2: 40X

Fig 2: Mucin secreting adenocarcinoma adjacent to transitionalepithelium.

Fig. 3: 10X

Fig. 3: 40X

Fig. 4: 10X

Fig. 4: 40X

Transitional epithelium deeper to which adenocarcinoma with lake of mucin along with large dilated blood vessels are seen.

Fig. 5: 40X

Tumor cells tend to form glandularunits

Fig. 6: 40X

Collection of signet ring cells.

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Fig. 7: 10X

Pools of Mucin with calcified spherules.

Fig. 8: 10X

Mucin-secreting adenocarcinoma present in the muscularis layer of the bladder.

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