

PRIMARY SIGNET-RING CELL CARCINOMA OF THE URINARY BLADDER LITERATURE REVIEW

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ABSTRACT

Primary signet ring cell carcinoma of the urinary bladder is very rare variant of mucus-producing adenocarcinoma, which has poor outcome. This tumor mainly occurs in the middle age patient with slight male predominance, 2/1, clinical presentation is similar to the conventional variant of transitional cell carcinomas. Primary SRCC are most often found in the glandular cells of the stomach originates in the stomach in 90 percent of patients, and less frequently in the breast, gall bladder, urinary bladder and pancreas SRCCs do not normally form in the lung though a few incidences have been reported. We report a case of 68 years old female with history of hematuria since six months, seek medical advice with urologist in which TURP done and diagnose in pathology lab as poorly differentiated mucinous adenocarcinoma, signet ring variant

KEYWORDS: Signet Ring Carcinoma, High Grade and Poor Prognosis

INTRODUCTION

Case Presentation

We report the case of a 68-year-old female patient complained of gross hematuria since one year, she did not seek medical advice, until she start to have abdominal distention and loss of weight, at that time she go to the hospital, in which was examined by urologist Ultrasonography and a computed tomography scan found a bladder tumor diffusely invading the bladder wall. TURP was done and specimen was sent for histopathological examination diagnosed as poorly differentiated mucinous adenocarcinoma with signet-ring pattern. A radical cystectomy he patient underwent radical cystectomy with an ileal conduit and bilateral pelvic lymphadenectomy. Histopathological examination of the urinary bladder Grossly, show exophytic tumor with mucoid, gelatinous cut surface measuring 7x6 cm invading the muscle and perivesical fat grossly. six lymph node identified, the largest measure 2 cm in maximum diameter microscopic examination, figure 1, revealed Tumor that show abundant mucin with tumour cells floating within the mucin pool with sheet of numerous signet ring cells finally reported as poorly differentiated mucinous adenocarcinoma with signet-ring pattern invading the perivesical fat and three lymph node with macro metastasis staging the tumor as pT3bN1M0. Adjuvant chemotherapy was then performed every three weeks. The patient was followed up. But unfortunately she passed away after six months; despite she was free from metastasis

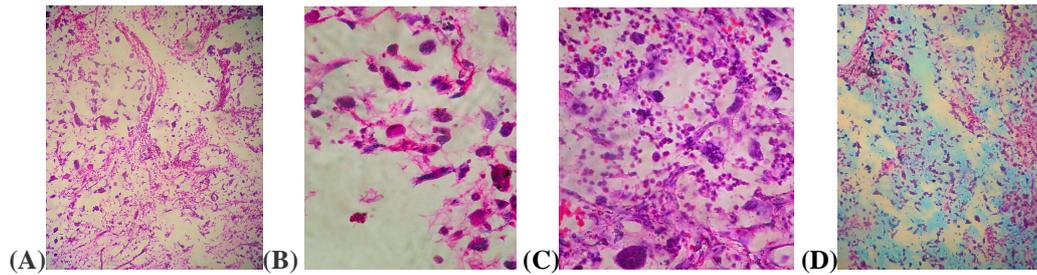


Figure 1

A - Transurethral biopsy – Pool of Mucin with Floating Signet Ring Cells (H and E, ×200) ,B & C - Showing Signet Ring Cell Feature with Abundant Mucin (H and E, ×400) , D,ALP (Alcian Blue Stain) Showing Abundant Mucin Stained Blue Confirming the Acidic Mucin (ALP, ×400)

DISCUSSION

Most cases of adenocarcinoma of the urinary bladder are associated with longstanding intestinal metaplasia of the urothelium, such as may be seen in a non-functioning bladder (1,2,5) obstruction chronic irritation and cystocele.(5,8) Adenocarcinoma arising in extrophy is felt to be secondary to the long-standing intestinal metaplasia common to this disease .The risk of development of adenocarcinoma in extrophy is in the range of 4.1-7.1%. Cystitis glandularis is present in invasive adenocarcinoma ranging from 14- 67% of cases (8,9) but its role in the pathogenesis of invasive adenocarcinoma is not clear. However, in patients with pelvic lipomatosis, which harbors cystitis glandularis, adenocarcinoma may occur (10,12) Adenocarcinoma may also arise in conjunction with villous adenomas, *S.haematobium* infestation, and endometriosis of the bladder Primary signet-ring cell carcinoma of the urinary bladder is a relatively rare subtype of adenocarcinoma and comprises only 0.24% to 2% of all primary epithelial urinary bladder tumors. Many theory about the histopathogenesis of primary SRCCs are discussed (12,11,14) they found that it is dedifferentiated adenocarcinomas that lose the capability for cell cell interaction. Highly differentiated adenocarcinoma's form SRCCs via a loss of adherents and tight junctions that typically separate MUC4, a mucin protein, and ErbB2, an oncogenic receptor. When MUC4 and ErbB2 are able to interact, they trigger an activation loop. As a result, the ErbB2/ErbB3 signaling pathway becomes constitutively activated, cell-cell interactions are lost and signet carcinomas are formed. Constitutive action of the ErbB2/ErbB3 complex also enhances cell growth (14,15) The mechanism of this malignant cancer is still unclear; however, it has been found that a colon carcinoma cell known as HCC2998 causes an increase in differentiated tumor production. The reason for this increase is due to active PI3K that are converted to a SRCC-like cells (15,16). Generally SRCCs of the urinary bladder is extremely rare. It occurs more commonly in males than in

Females at about 2:1, and affects adults with a peak incidence in the sixth decade of life (9,10) Haematuria is the most common symptom followed by dysuria, but mucusuria is rarely seen. Macroscopy, this tumour may be exophytic, papillary, sessile, ulcerating, or infiltrating and may exhibit a gelatinous appearance.

Histologically Tumours shows abundant mucin with tumour cells floating within the pools of mucin with diffuse sheets of signet ring cell may have a monocytoid or plasmacytoid pattern, and an accompanying in situ component with numerous signet ring cells may be present Immunoprofile of these tumours is variable and closely matches that of colonic adenocarcinomas, (11,13,15,16) Reports of cytokeratin (CK) 7 positivity are variable ranging from 0-82%, while CK-20 is reported to be positive in most bladder adenocarcinomas. Villin has recently been reported to be positive in enteric type adenocarcinomas of the urinary bladder (2,15) Another marker of interest is β -catenin, which has been reported to be of

help in distinguishing primary adenocarcinoma of the bladder from metastatic colonic adenocarcinoma. It should be differentiated from metastatic disease or direct extension, most commonly from colorectum and prostate, as secondary involvement is much more common than the primary adenocarcinoma of the bladder. The prognosis is usually poor as most of the cases diagnosed at an advanced stage. (11,12,4) Treatment options for signet-ring cell carcinomas include surgery (transurethral resection to radical cystectomy with urinary diversion), radiotherapy, and chemotherapy. Unfortunately, no standard chemotherapy exists for PSRCCs of the bladder because of their rarity. We report this case of PSRCC without metastasis treated with total cystectomy followed by systemic, in which was survive for six months, before she died.

CONCLUSIONS

Primary signet-ring cell carcinoma of the urinary bladder is a rare variant of mucus-producing adenocarcinoma, that is high-grade, advance-stage and has poor prognosis. Recently.

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