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Case Report
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Primary Micro Cystic Urothelial Carcinoma of Urinary Bladder: A Rare Variant Managed Conservatively

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Abstract

Urothelial cancers show diversity in high grade disease. The urothelial cancer variants are high grade and have poor prognosis. Glandular neoplasm of urothelium is uncommon and present in <1% of cases. Cystic differentiation in such tumors occurs and demonstrates multiple cystic spaces in the nest of the urothelium. We present one case of microcystic variant of urothelial cancer in 60-year postmenopausal female managed conservatively with Transurethral Resection of Bladder Tumor (TURBT) and intravesical BCG instillation and currently is disease free on regular follow up.

Keywords: Micro cyst; Bladder cancer; TURBT; BCG

Introduction

Microcystic urothelial carcinoma is one of the rare variants of urothelial carcinoma that was added to WHO classification system in 2004. It is linked with high grade and stage of urinary bladder tumor. It may be confused with primary adenocarcinoma, cystitis cystica, cystitis glandularis and nephrogenic adenoma. We report one case of microcystic urothelial variant and present our experience in its management.

Case Presentation

A 60-year postmenopausal female presented with suprapubic pain and backache of 6 months duration. There were no bowel or bladder complaints. Her past and family history was insignificant. On examination, patient was conscious, afebrile and vitals were stable. Systemic examination was normal. Routine work up including hemogram, serum electrolytes, renal and liver function test were within normal limits. Ultrasound abdomen showed urinary bladder growth of 2.5 cm × 1.0 cm over right posterolateral wall. Rest of the urinary bladder and bilateral kidneys were normal. Patient underwent Trans Urethral Resection of Bladder Tumor (TURBT). On cystoscopy, urethra and trigone were normal and there was superficial papillary growth of about 2 cm × 1.5 cm present in right posterolateral wall away from the ureteric orifice (Figure 1). Using 26 French resectoscope and 30° lens, complete resection of tumor was done and deep muscle biopsy taken separately for histopathology examination. Hemostasis was achieved and 20 French three-way Foley catheters was placed. Histopathology report showed intracellular and intercellular lumina/microcysts and lumina containing granulardebris/calcified material, periodic acid Schiff's - alcian blue and CK7 positivity suggesting it to be microcystic variant of urothelial carcinoma involving lamina propria (Figure 2A-2D). Deep muscle was free of tumour. A restage TURBT done 3 weeks later showed scar of previous surgery and no evidence of tumor. Staging work up was done in follow up. Contrast enhanced CT abdomen showed bladder wall thickening with no extravesical spread or regional lymphadenopathy (Figure 3), bone scan and chest X-ray were grossly normal. Patient was labeled as T1 microcystic variant of urothelial cell cancer. In view of localized disease and no evidence of muscle invasion, we planned for intravesical BCG 120 mg instillation. Patient received weekly 6 cycles of induction intravesical BCG therapy followed by one monthly maintenance therapy for 12 months. Cystoscopy done at 3 monthly intervals showed no recurrence. At 2 years, patient is disease free and under regular follow up.

Discussion

Microcystic variant of urothelial carcinoma is the variants of urothelial carcinoma that was added to the WHO classification in 2004. It has predominant features of urothelial carcinoma. Literature of microcystic variant carcinoma is limited as it is infrequently reported. Young et al. in 1991 reported

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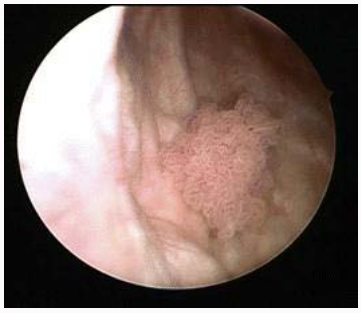

Figure 1: Intraoperative image showing superficial papillary growth in urinary bladder right posterolateral wall.

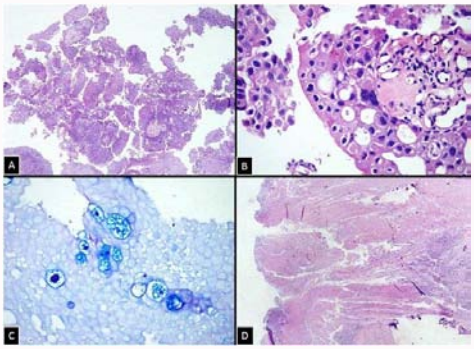

Figure 2: (A) Histopathology of the Transurethral Resection Bladder Tumor (TURBT) chips showing a tumor arranged in papillary configuration (H&E stain, 4x). (B) Higher magnification showing prominent intercellular microcysts with their lumen showing granular debris/calcified material (H&E stain, 40x). (C) These cysts show luminal periodic acid Schiff's- alcian blue positivity (PAS-AB stain, 40x). (D) Detrusor muscle is free of tumor.

four patients having bladder microcystic urothelial tumor [1]. These tumors tend to be aggressive and deeply invasive. Paz et al. described the clinical and histological features of 12 cases of transitional cell carcinomas of the urinary bladder with microcysts and all cases were high grade and high stage [2]. The histology is mainstay of diagnosis and characteristics findings are intracellular or intercellular lumina/microcysts surrounded by neoplastic urothelial or squamous cells. The lumina may contain granular eosinophilic debris, necrotic cells, or mucin. The cysts are variable in size; oval or round; up to 2 mm and lined by urothelium. The pattern of the tumour on microscopic examination mimics benign-looking appearance often confusing with cystitis cystica glandularis, nephrogenic adenoma, nephrogenic metaplasia and urothelial carcinoma with glandularis differentiation [3]. Ki 67 and p53 overexpression signifies the high grade nature of the tumor. Its biological behavior and prognosis after treatment is not well established. Existing literature is scarce. The limited case reports show the variable prognosis of this tumor with localized disease showing good outcome and locally advanced/metastatic stage often showed poor survival outcome despite aggressive surgery [4]. Cabrero et al. [5] reported a patient of microcystic urothelial cancer managed with TURBT and intravesical Mitomycin C instillation and patient was disease free at 3 years follow up. Leroy et al. reported two cases of renal pelvic microcystic urothelial carcinoma with survival of 18 months after radical surgery [6]. Presentation with metastatic

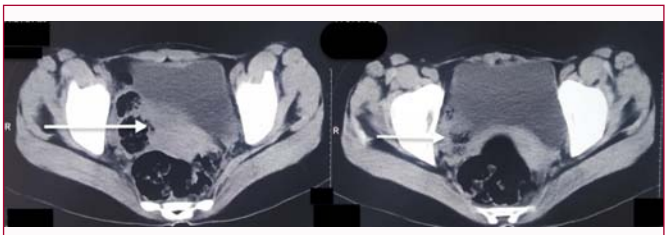

Figure 3: Contrast enhanced CT axial image showing right posterolateral urinary bladder wall thickening with no evidence of extravesical spread or loco regional lymphadenopathy.

disease has poor outcomes [7,8]. The index patient was diagnosed as T1 stage on TURBT and we started intravesical BCG instillations though no literature exists of BCG therapy. Intravesical BCG is well known for urothelial cancers and is known to halt recurrence and progression. Patient remained disease free at the end of two years with no evidence of recurrence. The patient is under regular follow up with cytology, upper tract imaging and cystoscopy. Considering the limited literature about this rare variant of urothelial carcinoma, the exact clinical and biological behavior cannot be predicted at present. Reporting of all newly diagnosed cases will help in defining the biological behavior of such tumors which remains elusive at present.

Conclusion

Microcystic variant of urothelial cancer is rare. It's highly aggressive and portends poor prognosis. Histopathology and immunochemistry is essential for correct diagnosis.

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