Transitional Cell Carcinoma of Ureter Simulating Left Colonic Malignancy—A Rare Case

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Abstract We reported a case of ureteric tumor, an uncommon disease presenting with colonic obstruction. This 52-year-old lady presented with history of colicky pain left lower abdomen for 5 months. Colonoscopy revealed circumferential nonnegotiable stricture at 25 cm from anal verge, and colonoscopic biopsy was inconclusive. Contrast-enhanced computed tomography (CECT) showed a growth involving sigmoid colon and left ureter with proximal left hydronephrosis with nonfunctioning left kidney. Guided fine needle aspiration cytology (FNAC) showed features of an adenocarcinoma. The patient was operated with a diagnosis of carcinoma colon and underwent low anterior resection with left nephroureterectomy. Histopathology of resected specimen revealed ureteric transitional cell carcinoma with colon infiltration. She had smooth postoperative recovery.

Keywords Transitional cell carcinoma · Ureteric tumor · Colonic obstruction

Introduction

Upper urinary tract transitional cell carcinoma (UUTT) constitutes 5–7 % of all urothelial tumors, 4 % located in renal pelvis and calices and 3 % in the ureter. It seldom presents as bilateral disease (2–4 %). Eighty percent of UUTT precedes

by bladder cancer [1]. UUTT is known to spread either by direct invasion into renal parenchyma and surrounding structures or by lymphatic or vascular invasion, and also by seeding along the urothelial bearing mucosa [2]. The index patient presented with colonic obstruction due to direct invasion of the colonic wall by the tumor and was treated as colonic malignancy with ureteric infiltration. It was histological surprise that revealed transitional cell carcinoma of ureter which was invading into the upper rectum and sigmoid. To our knowledge, there is no case report of ureteric tumor presenting as colonic involvement.

Case Report

A fifty-year-old female presented with pain in left lower abdomen of 5 months duration. Pain used to be intermittent, colicky, and had no association with food intake. There was history of increasing constipation over 5 months, and she noticed ball rolling movement in the abdomen for 3 months. There is no history of bleeding per rectum and hematuria. There was no palpable intra-abdominal lump. Per rectal examination was also within normal limits.

Routine investigations revealed hemoglobin of 11.4 g% and total leukocyte count of 7,000/mm³; renal and liver function tests were within normal limits. The blood carcinoembryonic antigen (CEA) level was 41 ng/ml ($n=2.5-5$). Colonoscopy showed circumferential narrowing with ulcerated mucosa at 25 cm from anal verge. Colonoscopic biopsy showed normal mucosa no evidence of malignancy. Contrast-enhanced computed tomography (CECT) was done that showed mass lesion in relation of distal sigmoid colon with pericolic fat stranding. The growth was infiltrating into the lower third of left ureter with proximal hydronephrosis (Fig. 1). CT-guided

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Fig. 1 CECT abdomen reveals the growth was infiltrating into the lower third of left ureter and rectosigmoid

fine needle aspiration cytology (FNAC) of the mass showed features of an adenocarcinoma.

Diethylene-triamine-penta-acetic acid (DTPA) scan revealed hydronephrotic left kidney with negligible cortical function. With a diagnosis of carcinoma left colon with ureteric involvement and left nonfunctioning kidney, low anterior resection with left nephroureterectomy was planned. On laparotomy, a 10×8-cm growth was found involving the sigmoid and upper rectum. Left ovary was adherent to the growth and left ureter was encased by growth with proximal dilatation of ureter. The patient underwent low anterior resection with left nephroureterectomy and left salpingo-oophorectomy. Postoperative course was uneventful. The final histopathology report came to be transitional cell tumor of the ureter with involvement of colon. The histopathology showed the tumor was diffusely infiltrating the wall of the colon transmurally extending up to the submucosa (Fig. 2). The overlying mucosa was intact. There were 12 lymph nodes entrapped within the mass and 5/12 lymph nodes showed tumor metastasis. Section from the left kidney showed features of chronic pyelonephritis. The colonic and rectal resection limits were free of tumor.

Discussion

Urothelial cancers are common in the sixth and seventh decades of life and are more prevalent in men. [3] Upper urinary tract transitional cell carcinoma (UUTC) is a rare condition, and there are no internationally validated guidelines on how to treat these lesions. Invasive and metastatic disease is more common than bladder transitional cell carcinoma. [4] Muscle-

Fig. 2 Medium power photomicrograph showing the primary focus of the ureteric tumor. The tumor cells are seen diffusely infiltrating the smooth muscle wall the ureter. Ureteric lumen is seen lined by partly preserved dysplastic epithelium (H&E, ×300)

invasive disease at presentation is seen in 40 % with UUTC and 50 % of renal pelvis and urethral tumors, and 19 % are metastatic at presentation. [5] Seventy-three percent of ureteric malignancies involve the distal ureter, 24 % mid ureter, and 3 % are primarily located in the proximal ureter. [6] These tumors are usually multifocal and about 2–8 % are bilateral. Secondary TCC of the bladder after treatment of UUTC is seen in up to 15 to 75 % within 5 years of the development of the upper tract cancers [7] Transitional cell carcinomas of the upper urinary tract may spread in different ways, including direct invasion into the renal parenchyma or surrounding structures, lymphatic or vascular invasion, and epithelial spread by seeding or direct extension. [2].

In our case, preoperative diagnosis was colonic tumor with ureteric infiltration. So, a low anterior resection and left nephroureterectomy were carried out. Postoperative histopathological examination revealed ureteric TCC with colonic involvement. Locally advanced ureteric tumor with colonic involvement is very rare. There is no report of such case in the English literature. In our case though bladder cuff was not taken during surgery but good distal gross margin of left ureter was taken.

The direct ureteric involvement most commonly occurs with carcinoma of cervix, carcinoma of colon, and retroperitoneal lymphoma. Most tumors compress rather than invade the ureter. Richie and associates presented an analysis of 46 patients of secondary ureteric obstruction. They reported a ureteric involvement ureter in the following order of frequency: breast (10 patients) colon/rectum (7), cervix (6), prostate (6), bladder (6), retroperitoneal lymphoma (5), and miscellaneous (6). [8].

In conclusion, primary ureteric tumor, though rare, must be kept in the differential diagnosis once there is any evidence in radiographic images that ureteric obstruction is present in a patient who has a history of malignant disease. It is important

to get repeat endoscopic biopsy if one biopsy fails as what happened in our case.

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