Small Bowel Adenocarcinoma of Ileal Ureter 40 Years After Ureteral Reconstructive Surgery

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Malignant neoplasm arising from ileal ureter used for ureteral reconstructive surgery is an exceedingly rare event. Ureteroileoplasty was being performed since the beginning of the last century, but it was described more extensively in literature during the 1950s. Recurrent urinary infections, chronic renal failure, urolithiasis, anastomotic stenosis, metabolic acidosis, and chronic dilation of the graft had been described as late complications of ureteroileoplasty. Herein, we describe history, imaging and pathologic findings of a small bowel adenocarcinoma arising from ileal ureter in a woman of 78-year-old, subjected to ureteroileoplasty about 40 years earlier.

A 78-year-old female presented to Emergency Department with worsening diffuse abdominal pain. She referred hematuria and diarrhea. A urologic procedure to reconstruct a damaged ureter performed at age 38 was reported. Contrast-enhanced computed tomography (CECT) demonstrated right-side grade 4 hydronephrosis. A heterogeneous mass was discovered in continuation with the proximal third of the ureter (Fig. 1). A tubular structure arising from the lesion and proximal ureter and appearing to end up in bladder fundus was noted (ileal ureter). Excretory phase images showed contrast passing from the ileal segment of the ureter to an ileal loop located anteriorly, due to a fistulous tract (Fig. 2). Findings were suggestive for tumor or abscess arising from the ureter/ileal loop used for ureteral reconstruction with ureteroenteric fistula. En-bloc resection of right kidney and its excretory system, right colon, and terminal ileum was performed. Gross examination showed a partially necrotic mass of 4 cm originating from the neo-ureter, near to the anastomosis site with the native ureter. Microscopic examination demonstrated transmural infiltration with extension to the periureteral fat plane. Endolymphatic, endovascular and perineural invasion with cancer cells was noted (Fig. 3). The adjacent mucosa showed signs of diffuse dysplasia. There was complete loss of MLH-1 and PMS-2; V600E mutation was also reported. Findings were consistent with adenocarcinoma arising from ileal ureter (pT4/G3/N2). The patient survived surgery and was discharged 4 months after surgery.

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after admission. Malignant neoplasms of ileal ureter used for ureteral reconstructive surgery are a very rare event; to the best of our knowledge, this is the fourth case described in literature.\textsuperscript{5-7} All reported ileal ureter adenocarcinomas arisen in the vicinity of anastomotic sites. Contact with urine may cause formation of nitrosamines, anastomotic site inflammation and epithelial hyperplasia, potentially leading to carcinogenesis.\textsuperscript{7} Likewise, we are witnessing in this era an increased incidence of adenocarcinoma arising from ileal conduits, reservoirs and neobladders after radical cystectomy.\textsuperscript{8} The high volume of surgeries and increased life-expectancy explains the phenomenon. The highest risk is described in anastomoses of ureter to colon, in which exposure to both urine and feces occurs.\textsuperscript{9}

References


Figure 3. Hematoxylin-Eosin stain, 10x magnification, shows differentiated adenocarcinoma of the ileal ureter composed of solid sheets and glands. Note the ileal neo-ureter mucosa (asterisk) and the wall infiltration by neoplastic cells (double asterisk).