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Letter to the Editor

A rare pure lymphoepithelioma-like carcinoma of the renal pelvis mimicking upper tract urothelial carcinoma: A potential diagnostic pitfall

Dear Editor,

Lymphoepithelioma-like carcinoma (LELC), morphologically identical to primary lymphoepithelioma in the nasopharynx, rarely occurs in the urinary tract and is mostly found in the urinary bladder [1]. LELC is classified into three subtypes, based on the amount of LELC in the tumor: pure (100%), predominant (50—99%), and focal (<50%). We report the fifth case of renal pelvic pure LELC in the literature [2—5], and the first case of renal pelvic LELC in Taiwan, which mimicked upper tract urothelial carcinoma (UC) in clinical features, imaging, urine cytology, and ureteroscopic tumor biopsy.

A 73-year-old woman with a history of hypertension visited our urology department with a 1-month history of intermittent painless gross hematuria with blood clots. She lived in a blackfoot disease-endemic area and had had contact with arsenic-containing underground water, but denied any history of cigarette smoking or genitourinary disease. Urinalysis revealed hematuria, and voiding urine cytology showed positive malignant cells. Computed tomography (CT) revealed a right renal pelvic mass with hydronephrosis (Fig. 1A), compatible with the finding of ureteroscopy (Fig. 1B). Ureteroscopic biopsy of the renal pelvis tumor revealed low-grade, papillary urothelial neoplasms; right nephroureterectomy with bladder cuff excision was subsequently performed. On opening the renal pelvis, we observed a solitary, 1.7- × 1.5-cm yellowish tumor that protruded into the renal pelvis (Fig. 1C). The surgical margin was tumor free; histologic sections of the neoplasm showed that the tumor entirely comprised abundant lymphoid stroma with large polygonal tumor cells (Fig. 1D). The polygonal tumor cells were positive for cytokeratin 7 on immunohistochemical staining (Fig. 1E); the lymphoid stroma was positive for CD3, but the neoplastic cells were negative (Fig. 1F). The pathological diagnosis was renal pelvis pure LELC, stage pT2N0. Regular follow-up cystoscopy was performed every 3 months in the first year and every 6 months in the second year onwards. No evidence of tumor recurrence was observed on cystoscopy, urine cytology, and CT over 2 years.

We reported an extremely rare case of renal pelvic pure LELC in a chronic arsenic exposure-endemic area of Taiwan, where a higher UC risk was consistently observed. In our case, no evidence of tumor recurrence was found over the 2-year follow-up; adjuvant chemotherapy or radiotherapy was not necessary. No recurrence was noted, after complete resection, in our case and in the previously reported 4 cases of renal pelvic pure LELC [2—5]. This experience taught us that 1) renal pelvic pure LELC could mimic an urothelial carcinoma through clinical features, imaging, urine cytology, and biopsy; 2) the correct diagnosis of pure LELC can only be based on postoperative histopathology and immunohistochemical staining; 3) good prognosis can be achieved with surgical treatment, in pure renal pelvic LELC, and increasing the interval of post-operative cystoscopy follow-up should be considered due to the low chance of recurrence. However, long-term follow-ups and more cases are required to confirm these outcomes; and 4) the proper diagnosis of pure LELC is immensely important, as different pathological diagnoses lead to completely different prognoses and follow-up strategies.

Conflicts of interest: All authors declare no conflicts of interests.

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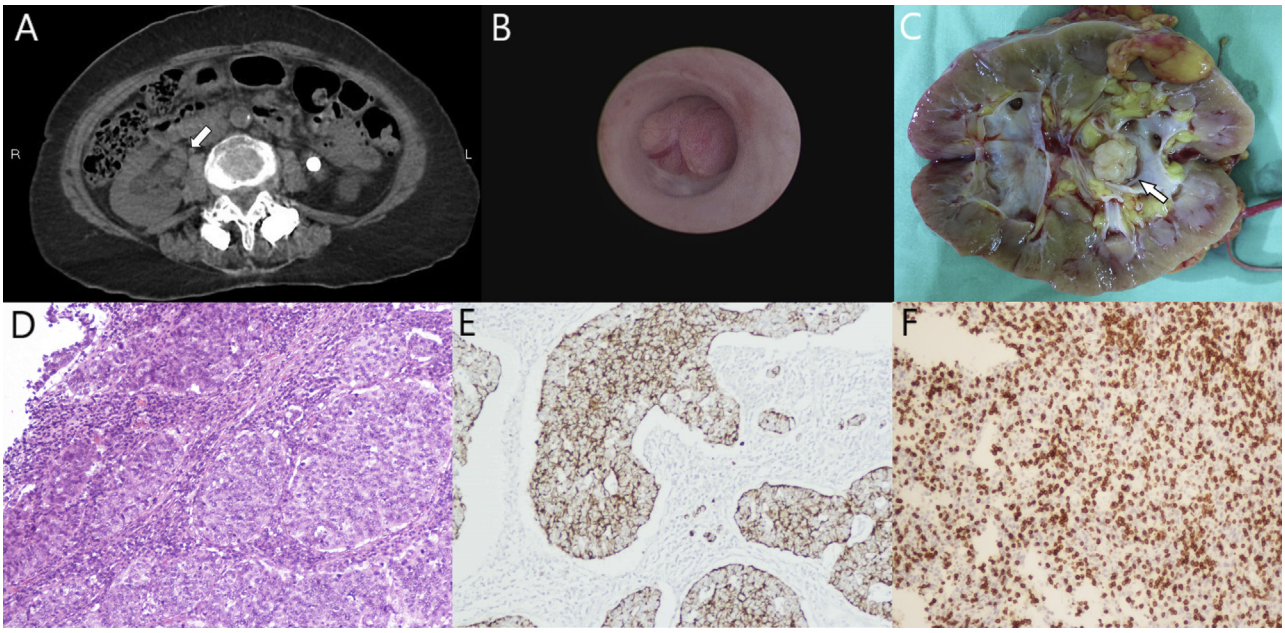

Figure 1. (A) Non-enhanced computed tomography was performed, due to impaired renal function (eGFR = 43 mL/min/1.73 m^2), and revealed a renal pelvic mass (arrow) with hydronephrosis and a left ureter stone. (B) The right renal pelvic mass that obstructed the ureteropelvic junction was found during ureteroscopy. (C) Macroscopic findings showed a solitary 1.7- × 1.5-cm yellowish tumor in the renal pelvis (arrow). (D) Microscopic findings revealed abundant lymphoid stroma with large polygonal tumor cells (hematoxylin and eosin staining; reduced from × 100). (E) Immunohistochemical staining for CK7 was positive in the polygonal tumor cells (reduced from × 100). (F) Immunohistochemical staining for CD3 was positive in the lymphoid stroma cells (reduced from × 100).

Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.kjms.2018.03.007.

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