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Case report

Primary mucinous adenocarcinoma of the renal pelvis with carcinoma in situ in the ureter

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KEYWORDS

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Abstract Primary epithelial tumor of the renal pelvis is rare and only 100 cases are reported in the literature [1]. Histological examination of the tumor showed glands, cysts, and papillae lined by pseudostratified columnar epithelium with hyperchromatic nuclei. Scattered signet ring-type cells were also seen floating in large pools of extracellular mucin. Sections from the ureter showed a component of adenocarcinoma in situ. No invasive tumor was identified in ureteric tissue. One case was reported with carcinoma in situ of the ureter (2).

Immunohistochemically: The tumor showed positivity for CK7, CK20, CK8/18, GATA-3, MSH-2, MSH-6, MLH-1, Ber-EP4, and S-100-P with focal positivity for CDX-2, weak positivity for PMS-2 and negativity in TTF-1 and Her-2. Molecular pathological analysis revealed microsatellite stability and without mutation in K-ras-gene. Thus, a diagnosis of mucinous adenocarcinoma of the renal pelvis with in situ adenocarcinoma of the ureter was made.

Introduction

Mucinous adenocarcinoma of the renal pelvis was first described in 1960 by Hasebe et al. [3], and it was the least common of the renal pelvis tumors, which include transitional cell carcinoma (85–90%), squamous cell carcinoma (10–15%) and adenocarcinoma (< 1%). Adenocarcinomas are further subdivided into (a) tubulovillous, (b) mucinous, and (c) papillary non-intestinal categories. The first two groups resemble intestinal adenocarcinoma and constitute 93% of the cases [4]. Mucinous adenocarcinomas are presumed to be

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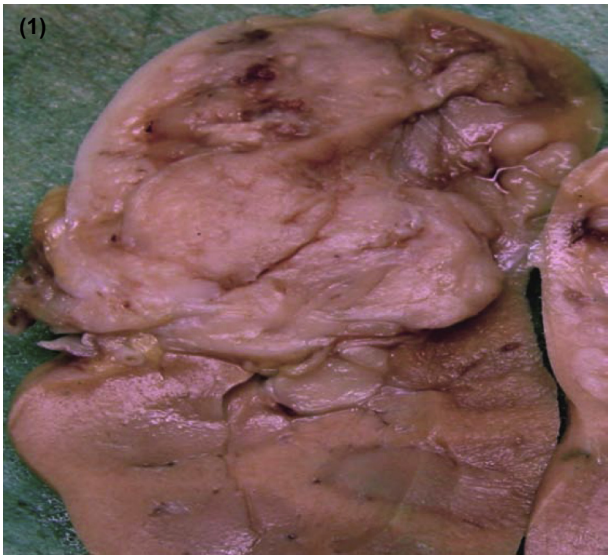

Figure 1 Photograph of the renal mass in renal pelvis with infiltration into the renal tissue.

originating from the intestinal metaplasia of the transitional epithelium [5].

Mucinous adenocarcinoma of the renal pelvis is a rare tumor and is mainly reported from Asian countries [6]. There are few documented reports according to which the mucinous adenocarcinoma of the renal pelvis usually occurs following glandular metaplasia of the transitional epithelium induced by long-standing chronic inflammation, sometimes secondary to renal stones [6]. It has been presumed that an adenoma-carcinoma sequence like that of a colonic tumor already exists. We report a case of mucinous adenocarcinoma of renal pelvis with in situ adenocarcinoma of the ureter.

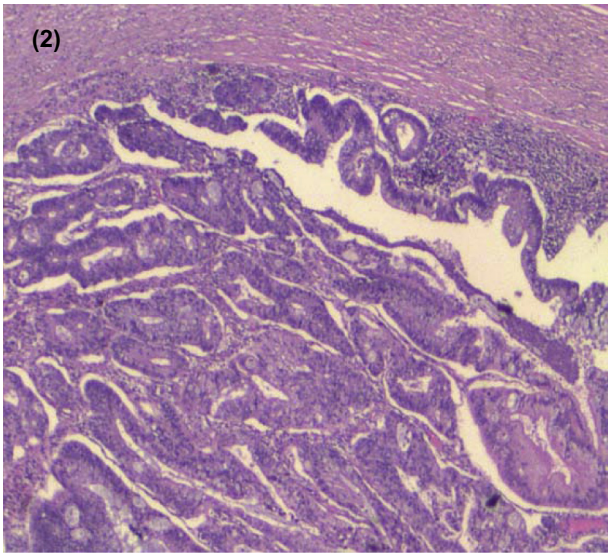

Figure 2 Photomicrograph shows malignant glands and signet ring cells in large pools of extracellular mucin (Hematoxylin and Eosin.x10).

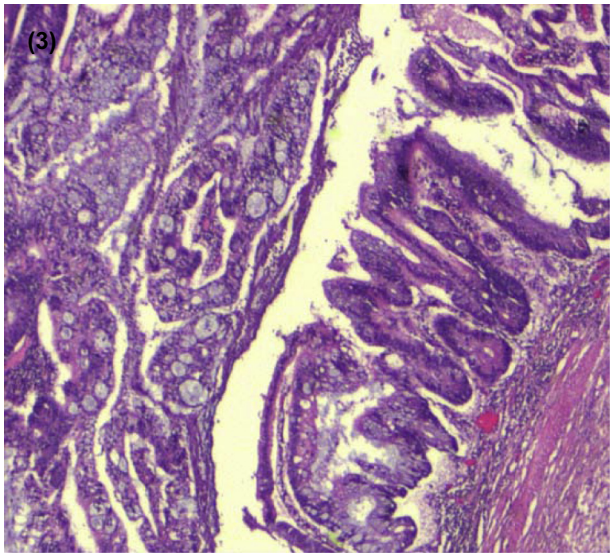

Figure 3 Photomicrograph shows on the right side the intestinal metaplasia of the renal pelvis with dysplastic changes. On the left side of the photomicrograph it shows malignant glands (Hematoxylin and Eosin.x10).

Case report

A 51-year-old female patient presented with swelling in the right side of the abdomen for a period of 1 year which was gradually increasing in size. She complained of continuous dull aching pain. There was no history of referred pain, dysuria, or hematuria. Ultrasonography of the abdomen revealed a right renal mass. Intravenous urography showed a right nonvisualized kidney with multiple stones. Computed tomography scan showed renal mass of the right kidney, two calculi and the ureter was dilated up to the level of iliac vessels. The provisional diagnosis was of non-functioning kidney and renal mass. The patient was subjected to right nephrectomy and partial ureterectomy. Preoperatively the kidney appeared like a cystic mass

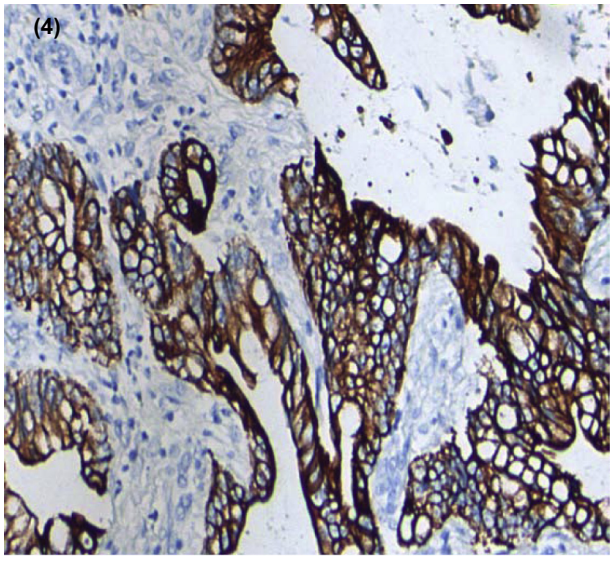

Figure 4 Neoplastic cells with strong positivity for CK8/18.