Case Report

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Alpha-Fetoprotein-Producing Adenocarcinoma of the Ureter

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Key Words

Ureteral adenocarcinoma
 α -Fetoprotein

Abstract

We report a case of primary ureteral tumor producing α -fetoprotein (AFP). Computerized tomography, ultrasonography and endoscopy of the bile duct revealed no obvious tumor in the liver, gallbladder, bile duct, pancreas or ovary. Total nephroureterectomy was performed, and histopathological examination revealed adenocarcinoma of the ureter lined with transitional cell carcinoma in its base. The tumor was stained with immunohistological AFP stain, and the high serum AFP level normalized after resection of the tumor.

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Introduction

Adenocarcinoma of the renal pelvis or ureter is quite rare. In the literature, only about 1 % of malignancies of the renal pelvis or ureter correspond to adenocarcinoma.

α -Fetoprotein (AFP) is considered as a tumor marker of several kinds of malignancies, such as liver cancer, yolk-sac tumor, and other gonadal neoplasms. Some other malignancies of digestive organs are also reported to be AFP producing. Tumors arising from the epithelium of the urinary tract seldom produce AFP.

Here we report a definitely rare case of adenocarcinoma of the ureter producing AFP and its histopathological findings.

tumor in the urinary bladder. Retrograde pyelography of the right ureter revealed complete obstruction of the middle ureter with a mass of the ureter wall. Cytological examination of the urine from the right ureter showed transitional cell carcinoma cells. Computerized tomography of this ureteral lesion showed a soft tissue mass of 20 mm in diameter (fig. 1). No metastatic lesion was detected in the retroperitoneal area or pelvic space.

Radical nephroureterectomy with intramural ureteral cuff resection and removal of bile duct calculi were performed at a time. Bile duct endoscopy was also performed and detected no tumorous lesions.

Histopathological examination revealed the ureteral tumor mainly composed of papillotubular adenocarcinoma which was stained with immunohistological AFP stain (fig. 2), and the tumor base was lined with low grade transitional cell epithelium, which was not stained with AFP stain. Serum AFP level gradually decreased and was less than 5 ng/ml within 2 months postoperatively. Chemical therapy was required, but the patient refused it. After 1 year of careful follow-up, there was no sign of recurrence.

Case Report

A 68-year-old Japanese woman presented to our hospital with weight loss and general fatigue. Ultrasonography was performed, and a calculus in the common bile duct was detected. Also, examination revealed severe hydronephrosis in her right kidney. Blood examination showed an excessive high level of AFP (i.e. 1,220 ng/ml) for her calculus. Computerized tomography and ultrasonography detected no tumorous changes in the liver, pancreas or gallbladder. Gastrointestinal and gynecological examination showed nothing particular. Excretory pyelography showed a normal upper urinary tract of the left side, but not the right kidney. Cystoscopy showed no visible

Discussion

AFP was first detected in fetal serum by Bergstrand and Czar in 1957 [1]. Later, AFP synthesis was reported in hepatocellular carcinomas [2] and teratocarcinoma [3] of the ovary and the testis. Some other malignancies were also shown to be AFP producing (e.g. malignancies of the stomach, lung and gallbladder). Most of these malignancies are adenocarcinomas.

Fig. 1. Computerized tomography showed enhanced mass of the right ureteral wall (arrow).
Fig. 2. Adenocarcinoma cells of the main tumor contained numerous granules

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Adenocarcinomas of the renal pelvis and ureter are quite rare. In some reports, adenocarcinoma was detected in the relative frequency of less than 1 % of renal pelvic and ureteral carcinomas [4]. AFP-producing ureteral tumors are definitely rare in this situation.

In our case, tumor was mainly composed of adenocarcinoma, and its base was lined with transitional cell carcinoma. It is not clear whether the transitional cell carcinoma was the secondary change of surrounding tissue, or it was the origin of the adenocarcinoma of the main tumor. Normalization of the serum AFP level after resection of the tumor might demonstrate that the ureteral tumor was not a metastatic tumor but the original locus. However, the serum level of AFP may not predict the prognosis in this case, because invasive transitional cell carcinoma of the tumor base was not stained with AFP stain.

References

Bergstrand CG, Czar B: Paper electrophoresis study of human fetal serum protein with demonstration of a new protein fraction. Scand J Clin Lab Invest 1975;9:277-286. Tatarinov YS: Detection of embryospecific α -globulin in the blood sera of patient with primary liver tumor. Vopr Med Khim 1964; 10: 90-91.

Abelev GI, Assecritova JV, Kraevsky N, Pe-rova SD, Perevodchikova NI: Embryonal serum α -globulin in cancer patient: Diagnostic value. IntJ Cancer 1967;2:551-558. Grabstald H, Whitmore WF, Melamed MR: Renal pelvic tumors. JAMA 1971 ;218:845-854.