

METANEPHRIC ADENOMA IN A 59-YEAR-OLD FEMALE: A CASE REPORT

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We report a case of metanephric adenoma in a 59-year-old female. The tumor was incidentally detected on computed tomography (CT) and ultrasound (US), and diagnosed as left renal cell carcinoma by radiological examination. Left nephrectomy was performed. The tumor measuring 4×3×3 cm had a clear margin and was encapsulated with thick fibrous tissue. The cut surface was yellow-white and the boundary of renal parenchyma was clear. Histopathologically, the tumor showed a characteristic composition of small uniform cells with regular nuclei that formed a tubular pattern. Immunohistologically, they were positive for Leu-7 and vimentin. Pathological diagnosis was metanephric adenoma. We discuss the radiological findings of metanephric adenoma.

(Acta Urol. Jpn. 50: 41–43, 2004)

Key words: Renal tumor, Nephrectomy, Metanephric adenoma

INTRODUCTION

Metanephric adenoma is an adenoma defined by Mostofi et al.¹⁾ in 1988 and is difficult to diagnose by radiological examination.

We experienced a case diagnosed as metanephric adenoma after nephrectomy performed for renal cell carcinoma suspected by radiological findings.

CASE REPORT

The patient was a 59-year-old female. She was admitted to Fukui Social Insurance Hospital for treatment of left renal tumor on 23 June 2001. She had a history of hepatitis C virus infection, and her familial history was not contributory. No abnormal findings were detected by physical examination. Urine was clear, and blood laboratory analysis demonstrated aspartate amino transferase and alanine amino transferase slightly above the upper limits of the normal range.

Radiological examination revealed a hypoechoic mass in the left upper pole by ultrasound but blood flow was detected by Doppler ultrasound (US). There was no recognition of filling defect on the nephrogram by intravenous pyelography (IVP). We found a hypodensity mass with a diameter of 4 cm in the left kidney by enhanced computed tomography (CT) (Fig 1). The tumor showed a low intensity by T1-weighted and high intensity by T2-weighted MRI. With the preoperative diagnosis of left renal cell carcinoma we performed transperitoneal left nephrectomy on 4 July 2001. The tumor measuring 4×3×3 cm had a clear margin and was encapsulated with thick fibrous tissue. The cut surface was yellow-white and the boundary of renal parenchyma was clear. Histopathologically, the tumor showed a characteristic composition of small uniform cells with regular nuclei that formed a tubular pattern.

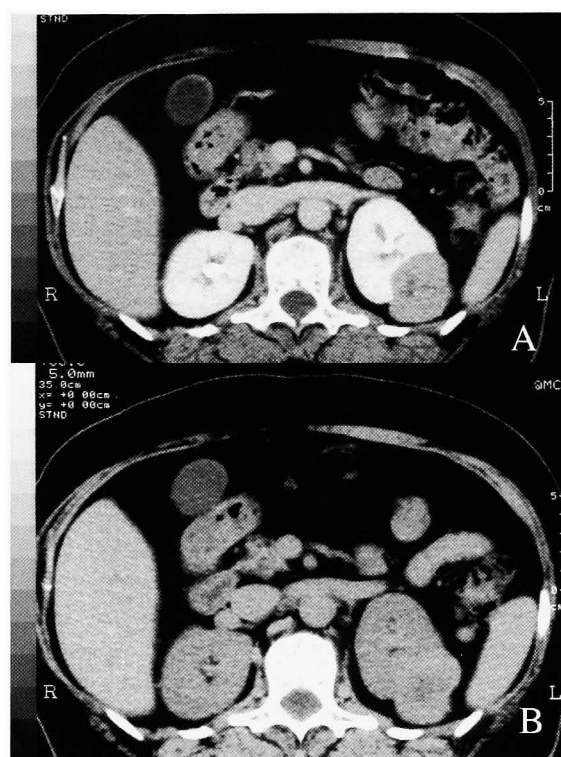


Fig. 1. Computed tomography shows a mass in the left kidney. Upper: Plain; low density mass in left kidney. Lower: Enhanced; slightly high density mass in the left kidney

Psammomatous calcifications were identified in this tumor (Fig. 2 A, B). Immunohistologically, they were positive for Leu-7 and vimentin. On the base of these findings the tumor was diagnosed as metanephric adenoma and the patient was discharged on 6 August without adjuvant therapy. The patient is now attending an outpatient clinic but we have not recognized metastasis or recurrence for 24 months.

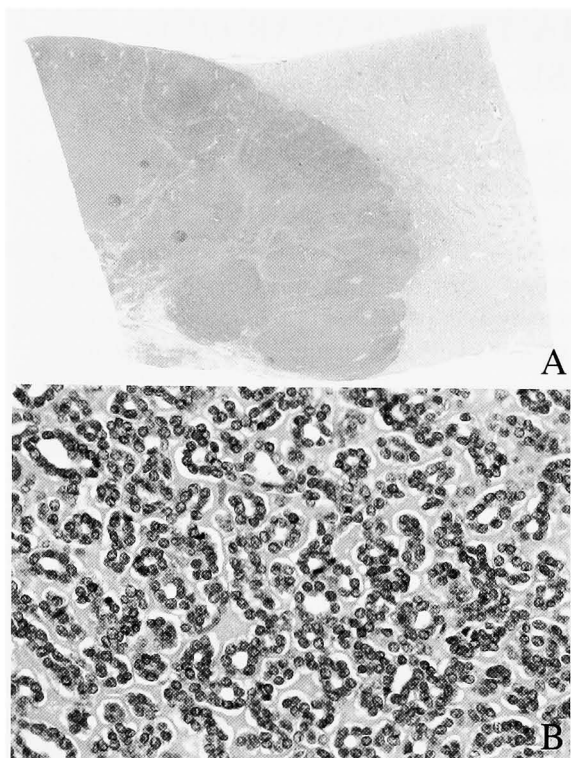


Fig. 2. A: Boundary of renal parenchyma was clear (Hematoxylin and eosin stain $\times 4$). B: Higher magnification of the renal tumor (Hematoxylin and eosin stain $\times 400$).

DISCUSSION

Metanephric adenoma is a rare benign renal tumor defined by Mostofi et al.¹⁾ in 1988. They classified renal adenoma into 3 categories histologically: tubulo-papillary adenoma, metanephric adenoma and oncocytoma. They defined renal adenomas as epithelial tumors composed of uniform cells with regular nuclei seldom exhibiting mitotic activity. In addition, the cells have scant cytoplasm, small, round and regular nuclei and form uniform glandular structures that may be compact, tubular, cystic, with or without papillation. Previously, metanephric adenomas have been reported as embryonal adenoma in pathological literature. We found 50 reports of metanephric adenoma by Davis Jr et al.²⁾ in 1995 and about 90 cases have been reported including our case. The patients were 5–83 years old (average age 44), the male to female ratio was about 1:4 with a predominance in woman. The reported symptoms were abdominal pain in 18 cases, hematuria in 9 cases, palpable mass in 6 cases, and polycythemia in 6 cases. However, most cases (35 cases) were discovered as an incidental mass.

In radiological findings, Julia et al.³⁾ reported that metanephric adenomas were hypodense by enhanced CT scan, but small tumors were homogeneous in pattern of contrast medium uptake. A discrimination diagnosis with renal tumor is especially

difficult by the imaging findings⁴⁾. The most important diagnostic difficulty is differentiating metanephric adenomas from Wilms tumor, renal cell carcinoma and tubulo-papillary adenoma^{5,6)}. Imamoto et al.⁷⁾ and Granter et al.⁸⁾ reported performing partial nephrectomy for cases of incidental tumor of the kidney. However, metanephric adenoma is difficult to diagnose on radiological examination. In the future, we should consider other choices, such as wait and see, a needle biopsy⁵⁾, and a partial kidney excision when a malignant tumor can not be excluded. It is necessary to consider preservation of kidney function⁹⁾. We could not deny a malignant tumor but performed nephrectomy this time. Renshaw et al.¹⁰⁾ reported typical metanephric adenoma with local metastases to the para-aortic, hilar and bifurcation lymph nodes. Our patient has been well and healthy without recurrence or metastasis 24 months after surgery.

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(Received on June 16, 2003)
(Accepted on October 4, 2003)

和文抄録

59歳女性に発症した後腎性腺腫の1例

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症例は56歳，女性，C型肝炎精査中のCTにて左腎腫瘍を指摘され2001年6月6日当科初診。検尿所見は異常なく血算生化学検査ではALT，ALPが軽度高値を示した。画像診断から左腎細胞癌と診断し同年7月4日経腹膜的左腎摘出術を施行。腫瘍断面は黄白色，腫瘍径は4×4×3 cm，病理組織診断はH-E 染

色にて弱角にて被膜を有さない境界明瞭な腫瘍であり，小管状構造からなり角は均一であった。免疫染色にてLeu-7，ビメンチンで陽性であった。以上から後腎性腺腫と診断。術後経過は良好であり現在までに再発，転移は認めない。

(泌尿紀要 50: 41～43, 2004)