Metanephric adenoma. A case report and literature review

Radovan Kaštan[1], Monika Žižlavská[2]

[1] *Department of Pathology, Hospital Jihlava, Czech Republic*
[2] *Department of Urology, Hospital Jihlava, Czech Republic*

SUMMARY
Metanephric adenoma is a rare renal tumor with almost exclusively benign behavior, which can clinically and radiologically imitate malignancy. The histological examination is therefore crucial in diagnosis. We report a case of a 69-year-old female with an incidental finding of metanephric adenoma of the left kidney and synchronous clear cell renal cell carcinoma of the contralateral kidney. In the report, we present our experience with this rare tumor and literature review with focusing on differential diagnosis. The histological differential diagnosis of metanephric adenoma includes papillary renal cell carcinoma in adult patients and nephroblastoma (Wilms tumor), particularly in children. Immunohistochemical examination and cytogenetic analyses may be useful in differential diagnosis of these neoplasms.

Keywords: metanephric adenoma – differential diagnosis – renal tumor – immunohistochemistry

Metanefrický adenóm. Kazuistika a prehľad literatúry

SÚHRN
Metanefrický adenóm je vzácny renálny tumor s takmer výlučne benígnym správaním, ktorý môže klinicky i rádiologicky napodobňovať malignitu. Histologické vyšetrenie je preto v diagnostike rozhodujúce. Prezentujeme prípad 69 ročnej ženy s náhodným nálezom metanefrického adenómu ľavej obličky a súčasne svetlobunkového renálneho karcinómu druhostrannej obličky. V práci prezentujeme naše skúsenosti s týmto zriedkavým tumorom a prehľad literatúry so zameraním na diferenciálnu diagnózu. Histologická diferenciálna diagnóza metanefrického adenómu zahŕňa papilárny renálny karcinóm u dospelých pacientov a nefroblastóm (Wilmsov tumor), hlavne u detí. Imunohistochemické vyšetrenie a cytogenetická analýza môžu byť užitočné v diferenciálnej diagnostike týchto tumorov.

Kľúčové slová: metanefrický adenóm – diferenciálna diagnóza – renálny tumor – imunohistochémia

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Metanephric adenoma (MA) is a rare renal tumor, which was first time described by Pages and Granier in 1980 as a nephrogenic nephroma (1). MA generally has a benign course, but clinically and radiologically it is difficult to distinguish this neoplasm from other particularly malignant renal tumors. Therefore microscopical diagnosis is crucial. Histological differential diagnosis includes nephroblastoma or Wilms tumor (WT), particularly in children and papillary renal cell carcinoma (PRCC) in adult patients. Especially histological appearances of the epithelial-predominant WT and solid variant of PRCC may be very similar to those of MA. In these cases, the immunohistochemical (IHC) examination and cytogenetic analyses may be useful. MA is usually unilateral solitary tumor and only rare cases of simultaneous diagnosis of MA with another different renal tumor were described. We report a case of the 69-year-old female with metanephric adenoma of the left kidney and synchronous clear cell renal cell carcinoma of the right kidney. Both of these tumors were revealed incidentally during the radiological examination of left ovary tumor.

✉ ***Correspondence address:***
MUDr. Radovan Kaštan,
Hospital Jihlava
Vrchlického 59, 586 33 Jihlava, Czech Republic
phone: +420722369538
e-mail: kastanr@nemji.cz

Another goal is to present the literature review of MA with focusing on morphological and immunohistochemical characteristics and histological differential diagnosis of this rare tumor.

CLINICAL HISTORY

The 69-year-old woman presented with diabetes mellitus, arterial hypertension, and ischemic heart disease was admitted to the Oncogynecology center of Hospital in Jihlava because of a huge left ovary tumor suspicious of cystadenoma. An ultrasound examination (USG) and computerized tomography scan (CT) of abdominal cavity were performed. Both radiological examinations revealed a huge cystic left ovarian tumor. Moreover, the radiological examination detected incidental findings of a well-circumscribed low-echo tumor 2cm in diameter on the convexity of the left kidney, which was suspicious of malignancy and multicystic lesion 10,8cm in diameter of the right kidney. The patient underwent hysterectomy with adnexectomy and the ovarian tumor was histologically diagnosed as a mucinous cystadenoma. Three months later the patient underwent partial nephrectomy of the left kidney. Because of a discrete progression of the right kidney cystic lesion on repeated CT imaging patient underwent complete nephrectomy of right kidney seven months after partial left nephrectomy.