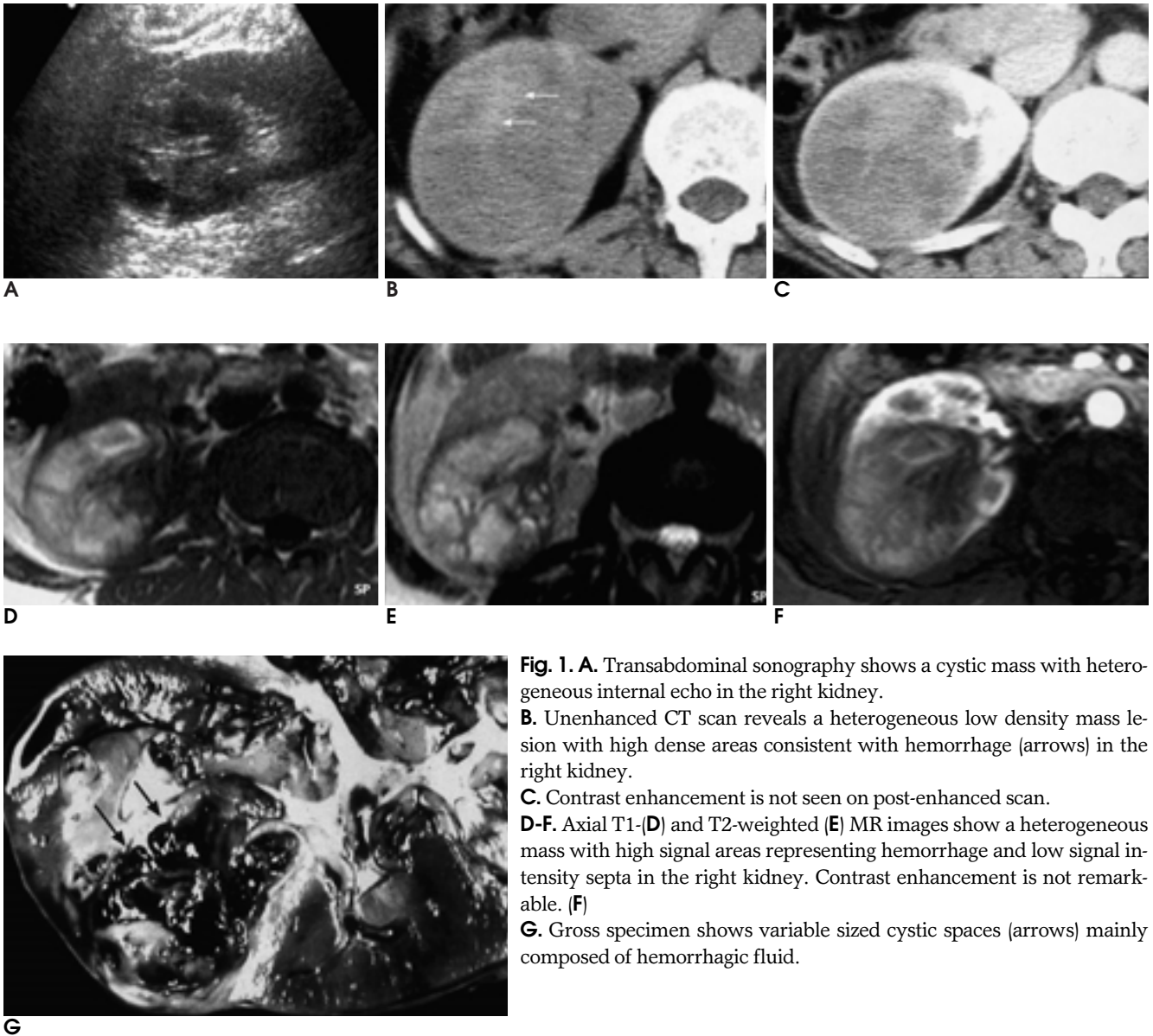




(7).  
neuron - specific enolase (NSE),  
S - 100 protein, vimentin  
PNET  
(1).  
CT  
CT  
30%  
(6). MR T1 -  
, T2 -  
가  
MR  
Ewing  
가 3 mm  
가 2 - 3 mm



**Fig. 1.** **A.** Transabdominal sonography shows a cystic mass with heterogeneous internal echo in the right kidney. **B.** Unenhanced CT scan reveals a heterogeneous low density mass lesion with high dense areas consistent with hemorrhage (arrows) in the right kidney. **C.** Contrast enhancement is not seen on post-enhanced scan. **D-F.** Axial T1-(**D**) and T2-weighted (**E**) MR images show a heterogeneous mass with high signal areas representing hemorrhage and low signal intensity septa in the right kidney. Contrast enhancement is not remarkable. (**F**) **G.** Gross specimen shows variable sized cystic spaces (arrows) mainly composed of hemorrhagic fluid.

10 - 20 hounsfield unit  
(8).

가 가

가 ,  
가 가 (9, 10).

, CT MR ,  
가 , PNET  
가 .

1. Dehner LP. Peripheral and central primitive neuroectodermal tumor. A nosologic concept seeking a consensus. *Arch Pathol Lab Med* 1986;110:997-1005
2. Kushner BH, Hajdu SI, Gulati SC, Erlandson RA, Exelby PR,

- Lieberman PH. Extracranial primitive neuroectodermal tumors. The Memorial Sloan-Kettering Cancer Center experience. *Cancer* 1991;67:1825-1829
3. Pappo AS, Cheah MS, Saldivar VA, Britton HA, Parmley RT. Disseminated primitive neuroectodermal tumor: diagnosis using immunocytochemistry, electron microscopy, and molecular probes. *Cancer* 1989;63:2515-2521
4. Mor Y, Nass D, Raviv G, Neumann Y, Nativ O, Goldwasser B. Malignant peripheral primitive neuroectodermal tumor (PNET) of the kidney. *Med Pediatr Oncol* 1994;23:437-440
5. Chan YF, Llewellyn H. Intrarenal primitive neuroectodermal tumor. *Br J Urol* 1994;73:326-327
6. Parlorio E, Arrazola J, Pedrosa I, Ruiz MA. Primitive neuroectodermal tumor of the kidney. *AJR Am J Roentgenol* 1998;171:1432-1433
7. Taieb S, Cabaret V, Bonodeau F, Leblanc E, Besson P. MRI of primitive neuroectodermal tumor of the uterus. *J Comput Assist Tomogr* 1998;22:896-898.
8. Bosniak MA. The current radiologic approach to renal cysts. *Radiology* 1986;158:1-10
9. Levy P, Helenon O, Merran S, et al. Cystic tumors of the kidney in adults: radio-histopathologic correlations. *J Radiol* 1999;80:121-133
10. Davidson AJ, Hartman DS, Choyke PL, Wagner BJ. Radiologic assessment of renal masses: implications for patient care. *Radiology* 1997;202:297-305

## Primitive Neuroectodermal Tumor of the Kidney: A Case Report<sup>1</sup>

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Primitive neuroectodermal tumor (PNET) is relatively uncommon, arising outside the central nervous system. Very rarely, it occurs within the urinary system.

A 55-year-old woman presented with gross hematuria and right flank pain which had begun two months earlier. A well-marginated, low-density mass containing high-density portions representing hemorrhage was seen in the right kidney at pre-enhanced CT; contrast enhancement was not prominent. At both T1- and T2-weighted MR imaging, a multilocular cystic mass with high signal intensity portions representing hemorrhage was observed. Contrast enhancement was absent.

We report the radiologic findings in this case of renal PNET.

**Index words :** Kidney, neoplasms  
Neoplasms, CT  
Neoplasms, MR

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