與大師對談

王俐人教授

2024-09

報告人：R4 陳俞均

- 依照臨床時序，請大師模擬一線放射科醫師；於未知診斷，或者有限度臨床線索之情形下，進行閱片及解讀。
- 鑑別診斷為主要，確定診斷為次要。
- 目的在於學習大師之影像判讀邏輯思考。
- 請大師給予本院影像品質建議:
  Protocols, techniques, etc.

CASE 1

44 Y/O F

Brief history

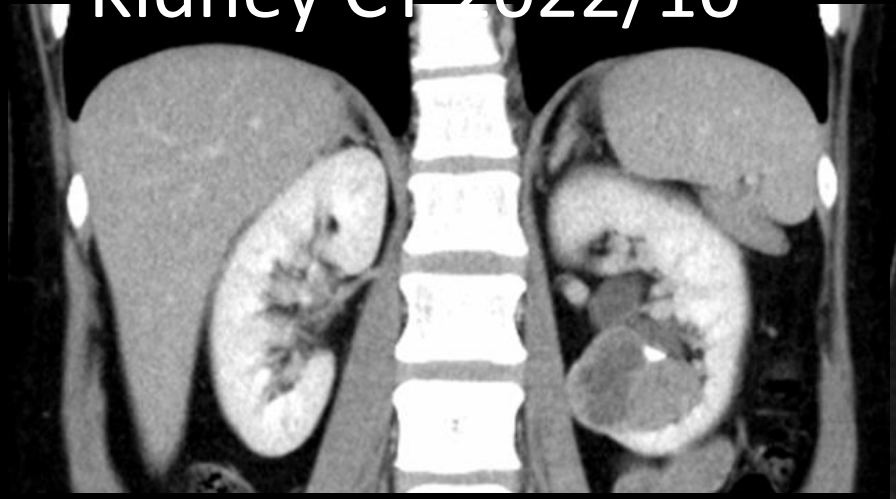
- **Past history**
  None

- **Chief complain**
  Left renal hyperechoic nodule 3 cm found in physical examination
- 110/10 renal echo: Lt renal mix-echoic lesion 3.2cm

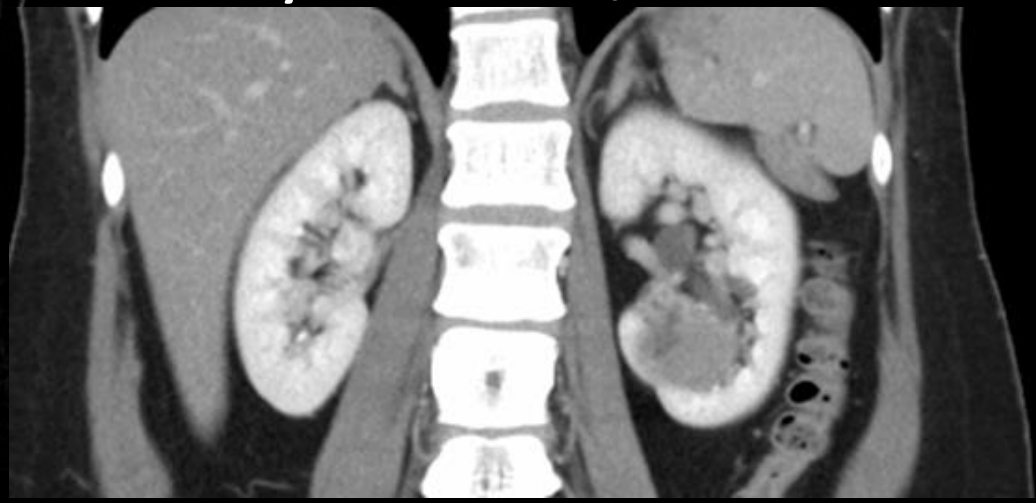
Imaging studies

- Kidney CT 2022/10
- Kidney MRI 2022/12
- Kidney CT 2023/07

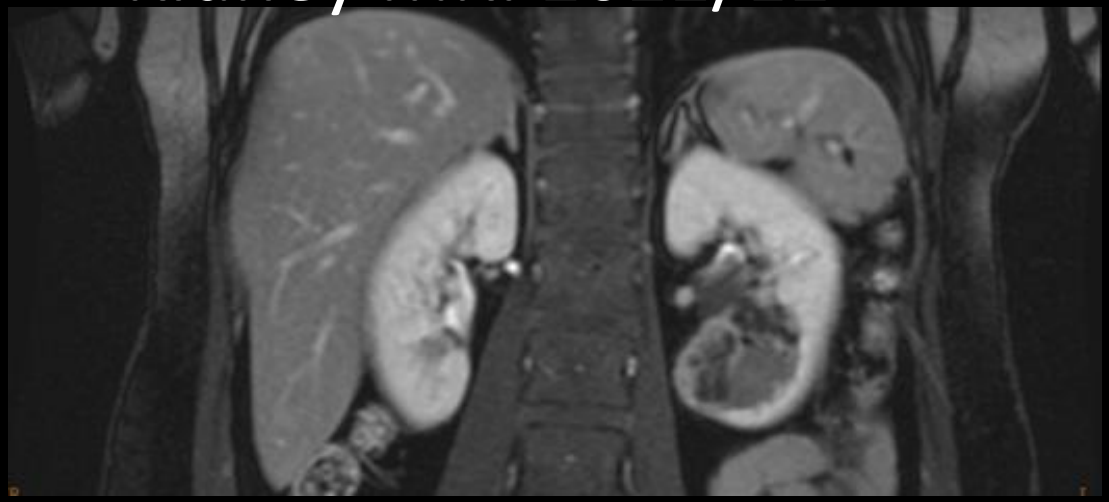
- Kidney CT 2022/10



- Kidney CT 2023/07



- Kidney MRI 2022/12



Differential Diagnoses

- RCC

Pathology

- **well-differentiated neuroendocrine tumor**
- **Margin Status:**
- All margins negative for invasive carcinoma.
  PATHOLOGIC STAGE CLASSIFICATION: (pTNM, AJCC 8th Edition)
  (1) Primary Tumor (pT): pT1a: Tumor less than or equal to 4 cm in greatest dimension, limited to the kidney
  (2) Regional Lymph Nodes (pN): pN not assigned (no nodes submitted or found)
  (3) Distant Metastasis (pM): Not applicable
  Pathologic Staging (pTNM): pStage I pT1aNXMX
  Comments:
- 1. Microscopically, the renal tumor displays a **well-differentiated neuroendocrine tumor** arranged in insular pattern, ribbon-like pattern, and trabecular pattern. The tumor cells have finely granular chromatin pattern and considerable amount of eosinophilic cytoplasm. Focal cystic change is noted. By immunostains, the tumor is diffusely positive for synaptophysin and INSM-1, weakly focally positive for CK and chromogranin A, and negative for PAX8, WT-1, BRAF (V600E), and CK7. The Ki-67 proliferative index is less than 5%.
  2. The renal pelvis, ureter, and hilar blood vessels are not involved by the tumor.

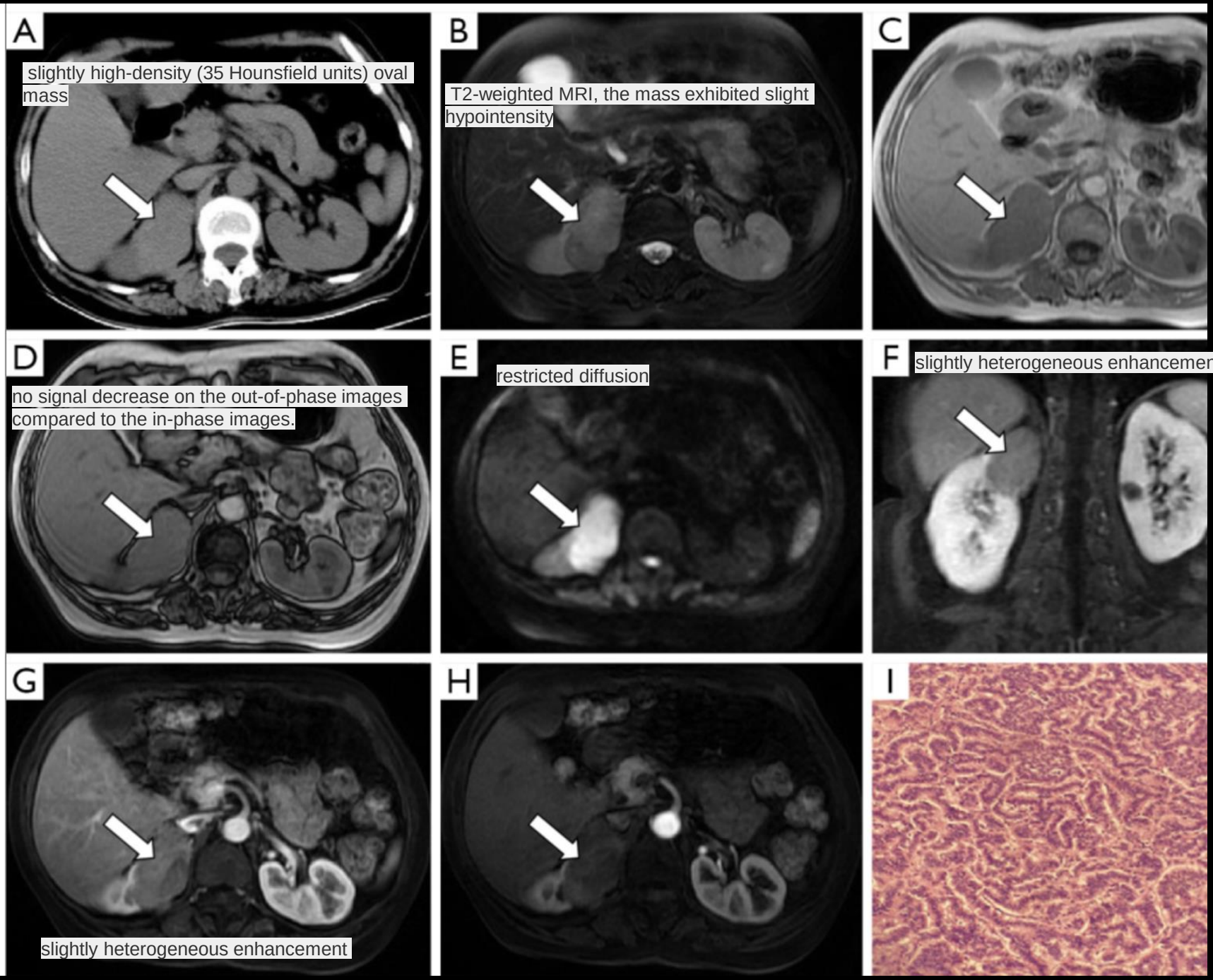
Discussion

- Primary renal well-differentiated neuroendocrine tumor
  - Primary renal carcinoid tumor
  - rare , incidence of only 0.13 per 1 million individuals
  - More common in patients with horseshoe kidneys
  - may be acquired through metaplasia, a result of congenital abnormality, abnormal embryonal cellular migration, or represent metastasis of unknown primary
  - Patients with carcinoid tumors usually present with nonspecific symptoms related to the mass such as pain, obstruction, a palpable abnormality, or hematuria. Rarely are symptoms related to hormone production and result in carcinoid syndrome,

Discussion

- CT
  - solid /cystic-solid, oval / lobulated, well-circumscribed masses
  - Hemorrhage is commonly observed, and approximately 25% of PRNTs may contain calcifications
  - Often hypodense & do not enhance in A phase
    - 18% marked enhancement, and 14% mild enhancement
  - DDX with RCC :
    - Typically, clear cell RCCs with a rich blood supply show significant heterogeneous enhancement and washout.
    - The imaging features of PRNTs are **indeterminate and overlap with those observed in papillary and chromophobe RCCs.** The mild and decreased enhancement in PRNTs is likely related to poor blood supply.

- MRI
  - hypointense on T2WI
  - DDX
    - ccRCCs typically show hyperintensity on T2WI
    - similar to papillary RCCs and chromophobe RCCs
    - No study has yet reported the sensitivity and specificity of tumors on T2WI in differentiating PRNTs from ccRCCs.
- Tx
  - Nephrectomy with lymph node dissection


A
slightly high-density (35 Hounsfield units) oval mass
B
T2-weighted MRI, the mass exhibited slight hypointensity
C
D
no signal decrease on the out-of-phase images compared to the in-phase images.
E
restricted diffusion
F
slightly heterogeneous enhancement
G
slightly heterogeneous enhancement
H
I