

Differentiation of papillary renal cell carcinoma subtypes on CT and MRI - Abstract

Published on 27 September 2013

OBJECTIVE: The objective of our study was to determine the frequency of atypical papillary renal cell carcinomas (RCCs) and identify imaging differences between type 1 and type 2 papillary RCCs once atypical papillary RCC tumors have been excluded.

MATERIALS AND METHODS: Eighty-two papillary RCC tumors were classified at pathology as type 1, type 2, or atypical. The CT and MRI examinations of these tumors were reviewed. Imaging features such as tumor size, margins, heterogeneity, and enhancement were assessed and the findings in type 1 and type 2 tumors were compared.

RESULTS: There were 43 type 1 and 13 type 2 tumors. Atypical histologic features (i.e., tumors containing both type 1 and type 2 components, clear cells, or components with atypically high nuclear grade [in type 1 tumors] or low nuclear grade [in type 2 tumors]) were seen in 26 tumors. On CT, type 2 tumors more commonly had infiltrative margins ($p = 0.05$) and were more likely to have calcifications ($p = 0.04$) than type 1 tumors, although these features were seen in all tumor types. Type 2 tumors were also more heterogeneous than type 1 tumors ($p = 0.04$). On CT, 11 papillary RCCs showed enhancement of less than 20 HU, seven of which showed enhancement of less than 10 HU. On MRI, all tumors showed enhancement on subtraction images.

CONCLUSION: Nearly one third of papillary RCCs in our patient population had atypical features at histology. On CT and MRI, there are some significant differences in imaging features between type 1 and type 2 tumors; however, substantial overlap precludes categorization on a per-patient basis. On CT, many papillary RCCs do not enhance, indicating that assessment of enhancement alone is insufficient for differentiating papillary RCCs from hyperdense cysts.

Written by:

Egbert ND, Caoili EM, Cohan RH, Davenport MS, Francis IR, Kunju LP, Ellis JH. **Are you the author?**

Department of Radiology, University of Michigan Health System, 1500 E Medical Center Dr, Ann Arbor, MI 48109, USA.

nathaneg@med.umich.edu

Reference: AJR Am J Roentgenol. 2013 Aug;201(2):347-55.

doi: 10.2214/AJR.12.9451

PubMed Abstract

PMID: 23883215

UroToday.com Renal Cancer Section



Renal Cancer

Imaging
 Treatment
 Grading and Staging
 Pathology
 Guidelines
 Incidence - Etiology
 Epidemiology
 Clinical Presentation
 Clinical Staging
 Prognosis
 Clinical Follow Up

Disease Topics

Prostate Cancer
 mCRPC Treatment
 Immunotherapy
 mCRPC Nursing
 Bone Metastases
 Genomics
 Bladder Cancer
 Upper Tract Tumors
 Renal Cancer
 Endourology
 Stone Disease
 Urologic Catheters
 BPH
 Peyronie's Disease
 Erectile Dysfunction
 Adrenal Disease
 Kidney Conditions
 Investigative Urology
 CAUTI CHALLENGE

ire

Testicular Cancer

Urinary Incontinence

Stress Urinary Incontinence

Overactive Bladder

Refractory OAB

Interstitial Cystitis

Prostatitis

Nocturia

Renal Vascular Disease

Trauma/Reconstruction

Androgen Deficiency

Pediatric Urology

Male Infertility

Urology Training/Practice

Vasectomy

Infections

Penile & Urethral Cancer

Topics on Urology Health, Urinary Leakage, Treating Prostate Cancer, Prostate Cancer Diagnosis, Urology News, Symptoms For Bladder Infection In Men