EDORIUM Journals
www.edoriumjournals.com

CLINICAL IMAGES OPEN ACCESS | PEER REVIEWED

Renal carcinoma complicating autosomal dominant polycystic kidney disease

Francisco Rivera, Celia López Redondo

ABSTRACT

Abstract is not required for Clinical Images

CLINICAL IMAGES OPEN ACCESS | PEER REVIEWED

Renal carcinoma complicating autosomal dominant polycystic kidney disease

Francisco Rivera, Celia López Redondo

CASE REPORT

On February 2013, a 76-year-old male was sent to our nephrology unit to evaluate renal disease. He was asymptomatic and had been diagnosed with hypertension, overweight, benign prostatic hypertrophy and chronic obstructive pulmonary disease several years ago. His one daughter was also diagnosed with a renal cyst. His serum creatinine was 1.6 mg/dL, eGFR 42 mL/min, albumin/creatinine ratio in spot urine sample 2.8 mg/g and normal urinary sediment. Ultrasonography showed a slight enlargement of both kidneys and the presence of multiple bilateral cysts, predominantly with cortical distribution, classified as Bosniak I. No complex cysts that required monitoring or solid lesions were found (Figure 1). Therefore, he was diagnosed with Autosomal Dominant Polycystic Kidney Disease (ADPKD) and follow-up was drawn. He was successfully treated with losartan 50 mg/day. On July 2014, a new ultrasound control revealed the appearance of an echogenic nodule on the upper pole of the right kidney with vascularization in Doppler mode (Figure 2). The study was completed by computed tomography scan that confirmed the presence of a solid nodule of 23 mm on the right kidney with early contrast enhancement after i.v. iodine contrast administration. These findings strongly suggested the existence of superimposed renal cell carcinoma (RCC) (Figure 3). Considering his age and co-morbidities conservative treatment was planned.

Francisco Rivera[1], Celia López Redondo[2]

Affiliations: [1]Department of Nephrology, Hospital General Universitario de Ciudad Real, Spain; [2]Department of Radiology, Hospital Santa Bárbara, Puertollano, Ciudad Real, Spain.

Corresponding Author: Francisco Rivera, Nephrology Unit, Hospital General Universitario de Ciudad Real, Spain; Email: friverahdez@senefro.org

Received: 08 November 2014
Accepted: 02 December 2014
Published: 01 February 2015

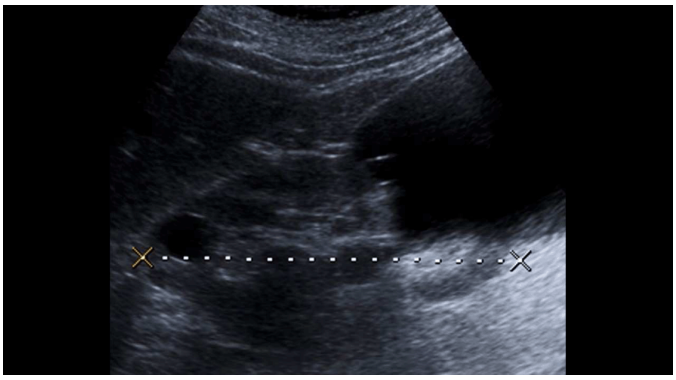

Figure 1: Ultrasound image of right kidney showing multiple cysts with cortical distribution, classified as Bosniak I.

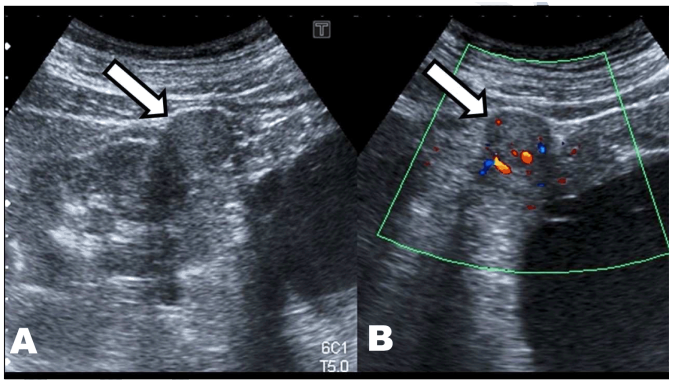

Figure 2: Ultrasound image of the upper pole of right kidney. (A) B-mode image with an echogenic nodule, with rounded morphology (white arrow), (B) Doppler mode reveals the presence of vascularization in this nodule (white arrow).

DISCUSSION

The association between RCC and ADPKD has been described although this association has raised some controversy. While several case reports of RCC complicating ADPKD have been described and it has been found premalignant epithelial cells in the cyst epithelia, epidemiologic and autopsy studies have not shown a significant higher incidence of RCC in ADPKD [1, 2].

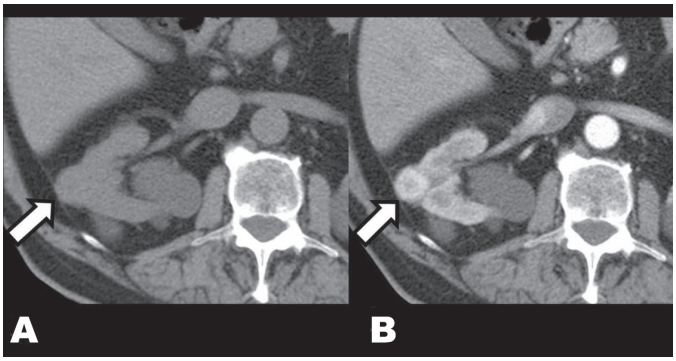

Figure 3: (A) Computed tomography scan showing without intravenous contrast: exophytic isodense nodule compared to the rest of the renal parenchyma (white arrow), (B) Computed tomography scan in arterial phase after the administration of intravenous contrast: early enhancement predominates at the periphery of the nodule (white arrow).

On the other hand, more recent studies have described that kidney-related prevalence of RCC in patients with ADPKD and advanced chronic renal failure treated by hemodialysis or renal transplantation was high [3, 4]. These apparent discrepancies could be explained by the difficulties in the diagnosis of RCC in this setting and emphasizes the importance of close clinical surveillance and the interpretation of several radiological studies such ultrasonography, CT scan and MRI scan [5, 6].

Herein, we report a case of RCC complicating ADPKD who has several characteristics. Firstly, he did have neither hematuria nor symptoms of occult neoplasia. Secondly, renal function was decreased although dialysis was not needed. Finally, the combination of ultrasonography and unenhanced and contrast-enhanced CT scan studies were able to achieve a diagnosis without using RMI, as it has been recently recommended.

CONCLUSION

Renal cell carcinoma (RCC) can appear as a complication of autosomal dominant polycystic kidney disease (ADPKD). The diagnosis of RCC in this setting needs a thoroughly radiological evaluation, which should include ultrasonography and computed tomography scan studies.

How to cite this article

Rivera F, Redondo CL. Renal carcinoma complicating autosomal dominant polycystic kidney disease. Int J Case Rep Images 2015;6(2):115–117.

doi:10.5348/ijcri-201504-CL-10059

****

Author Contributions

Francisco Rivera – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Celia López Redondo – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

REFERENCES

1. Kumar S, Cederbaum AI, Pletka PG. Renal cell carcinoma in polycystic kidneys: case report and review of literature. J Urol 1980 Nov;124(5):708–9.
2. Keith DS, Torres VE, King BF, Zincki H, Farrow GM. Renal cell carcinoma in autosomal dominant polycystic kidney disease. J Am Soc Nephrol 1994 Mar;4(9):1661–9.
3. Hajj P, Ferlicot S, Massoud W, et al. Prevalence of renal cell carcinoma in patients with autosomal dominant polycystic kidney disease and chronic renal failure. Urology 2009 Sep;74(3):631–4.
4. Jilg CA, Drendel V, Bacher J, et al. Autosomal dominant polycystic kidney disease: Prevalence of renal neoplasias in surgical kidney specimens. Nephron Clin Pract 2013;123(1-2):13–21.
5. Gupta S, Seith A, Sud K, et al. CT in the evaluation of complicated autosomal dominant polycystic kidney disease. Acta Radiologica 2000 May;41(3):280–4.
6. Ars E, Bernis C, Fraga G, et al. Spanish guidelines for the management of autosomal dominant polycystic kidney disease. Nephrol Dial Transplant 2014 Sep;29 Suppl 4:iv95–105.

ABOUT THE AUTHORS

Article citation: Rivera F, Redondo CL. Renal carcinoma complicating autosomal dominant polycystic kidney disease. Int J Case Rep Images 2015;6(2):115–117.

Francisco Rivera is Nephrologist at Hospital General Universitario de Ciudad Real (Spain). He earned undergraduate and postgraduate degrees of Medicine from Universidad Autónoma de Madrid (Spain). He has published more than 200 research papers in national and international academic journals and authored 70 chapters. His research interests include autoimmune primary and secondary renal diseases and chronic renal failure.

Dra Celia López Redondo is Radiologist at Hospital Santa Bárbara in Puertollano (Spain). She earned undergraduate and postgraduate degrees of Medicine from Universidad de Córdoba (Spain). She completed her specialty few months ago. She has published some research papers in national and international academic journals. Her research interests include oncology and abdominal radiology.

Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals

Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?

In less than 10 words - we give you what no one does.

Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review

All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status

From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks

You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.

Four weeks

After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.

Mentored Review Articles (MRA)

Our academic program "Mentored Review Article" (MRA) gives you a unique opportunity to publish papers under mentorship of international faculty. These articles are published free of charges.

Favored Author program

One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence

We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...

We request you to have a look at our website to know more about us and our services.

We welcome you to interact with us, share with us, join us and of course publish with us.

Edorium Journals: On Web

Browse Journals

CONNECT WITH US