

Special Edition  
"Global Health Policy and Kidney  
Disease"

## Case Report

**\*Corresponding author**  
**Ahmed Anas Zaougui, MD**  
Department of Urology  
Hassan II Teaching Hospital in  
Fez-Morocco, Morocco  
E-mail: [a.zaougui@gmail.com](mailto:a.zaougui@gmail.com)

**Special Edition 1**

**Article Ref. #: 1000NPOJSE1101**

### Article History

**Received:** January 24<sup>th</sup>, 2017

**Accepted:** March 3<sup>rd</sup>, 2017

**Published:** March 6<sup>th</sup>, 2017

### Citation

Zaougui AA, Tenkorang S, Sow A, et al. A case report of carcinoid tumor of the kidney. *Nephrol Open J.* 2017; SE(1): S1-S3. doi: [10.17140/NPOJ-SE-1-101](https://doi.org/10.17140/NPOJ-SE-1-101)

### Copyright

©2017 Zaougui AA This is an open access article distributed under the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

# A Case Report of Carcinoid Tumor of the Kidney

**Ahmed Anas Zaougui, MD\***; **Somuah Tenkorang, MD**; **Aboubakry Sow, MD**; **Soufiane Mellas, PhD**; **Mohammed Fadl Tazi, PhD**; **Abdelhak Khallouk, PhD**; **Mohammed Jamal El Fassi, PhD**; **Jalal Eddine El Ammari, PhD**; **Moulay Hassan Farih, PhD**

*Department of Urology, Hassan II Teaching Hospital in Fez-Morocco, Morocco*

## ABSTRACT

Carcinoid tumors are low grade malignant neoplasms which classically occur in the gastrointestinal tract and in the lungs. This is explained by the presence of neuroendocrine cells in these organs. The kidney is an extremely rare localization for this tumor as there are no neuroendocrine cells in normal renal parenchyma. Thus, a very few reported cases of this disease can be found in the literature. We report another case of primary carcinoid tumor of the kidney in a 60 year old Moroccan woman who complained of an intermittent left flank pain. Abdominal computed tomography (CT) scan objectified a renal mass, highly suspicious of malignancy. Histological examination of the specimen after nephrectomy confirmed a renal carcinoid tumor. This case presentation seeks to add another report with the view of enriching the existing literature. Through this case report we will present our clinical workup and surgical intervention of this rare urological neoplasm.

**KEY WORDS:** Carcinoid tumor; kidney; Computed tomography (CT) scan.

## INTRODUCTION

Primary carcinoid tumors of the kidney are extremely rare, with less than 100 cases being documented in world literature. Their pathogenesis is uncertain because neuroendocrine cells are not found in normal renal parenchyma, the renal pelvis, and the ureter. Carcinoid tumors are low-grade, malignant neoplasms that arise in organs containing neuroendocrine cells such as the gastrointestinal tract and lungs. The purpose of this article is to present our clinical workup and surgical intervention of this rare urological neoplasm.

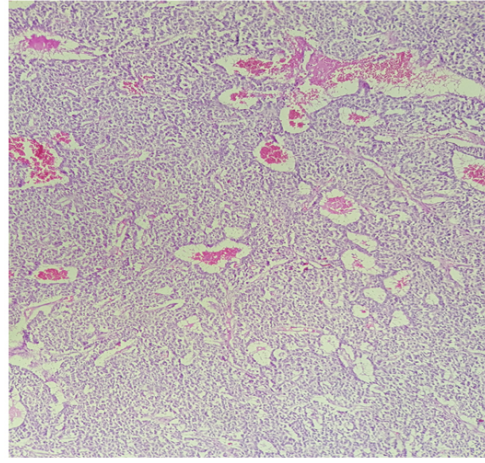
## Case Presentation

This case report is based on a 60 year old, Moroccan non-working individual, who complained of an intermittent left flank pain since 6 months, without any macroscopic hematuria, hydatiduria, or painful urination. Clinical examination was unremarkable apart from a blood hypertension. Abdominal CT scan showed a solid heterogenous mass measuring approximately 7×5 cm in the middle part of the kidney (Figure 1). The patient underwent radical nephrectomy. After histopathological evaluation, the lesion was diagnosed as a primary renal carcinoid tumor (neuroendocrine tumor-NETs). The tumor met both the histological and immunochemical criteria for designation as a carcinoid tumor. So, the tumor was positive for anti-CK antibody, synaptophysin, and chromogranin (Figures 2, 3 and 4) (Tables 1 and 2).

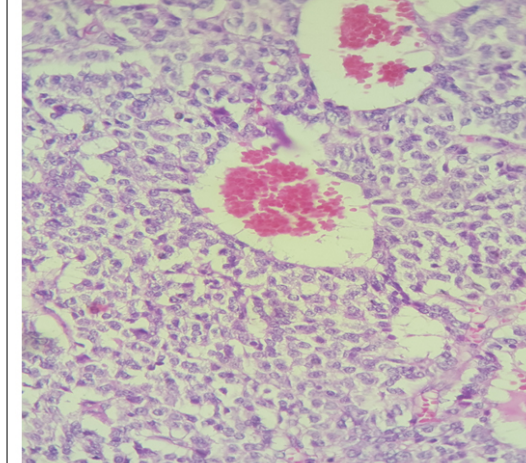
## DISCUSSION

Primary carcinoid tumors of the kidney are very uncommon. The first reported case was in 1966 by Resnick and colleagues,<sup>1</sup> and since then less than 100 cases have been documented in the world literature, this case is reported to enrich that literature.

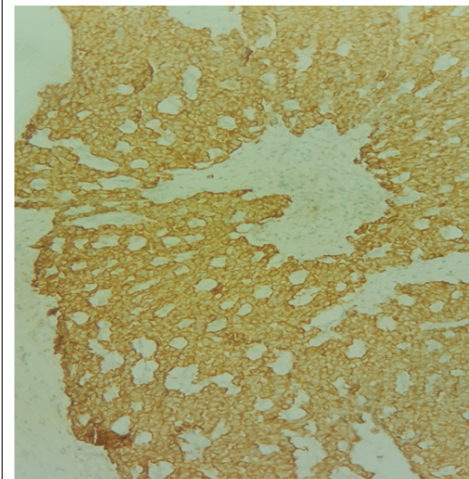
**Figure 1:** Histological Aspect of Tumor Proliferation with Neuroendocrine Vascularization (x100).



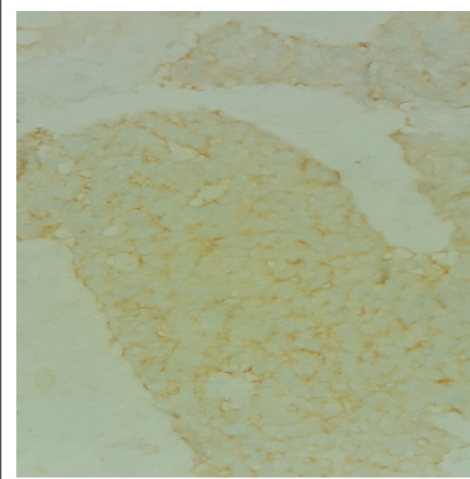
**Figure 2:** Tumor Proliferation is made of Monomorphic Cells of Medium Size Containing a Homogeneous Chromatin (x400).



**Figure 3:** A Positive Stain of Tumor Cells by Anti-Pan Cytokeratin Antibodies (x200).



**Figure 4:** A Positive Stain of Tumor Cells by Anti-Synaptophysin Antibodies (x200).



**Table 1 :** Renal Cell Carcinoma Features Present in this Patient.

	Present	Absent
Clinical features	Flank pain	Hematuria
	Weight loss	Abdominal mass
	High blood pressure	Painful urination
CT scan	Solid renal mass	

**Table 2:** Immunohistochemistry Features in this Patient.

	Positive	Negative
Histology (Immunohistochemistry)	Ki-67	Neurone specific enolase
	Synaptophysin	Inhibine
	Chromogranin	Anti-P53 antibody
	Anti-CK antibody	Thyroglobulin

It has been observed that renal carcinoid tumors are more common in patients with horseshoe kidney.<sup>2,3</sup> Most patients present with abdominal pain and hematuria. Diagnosis is established after surgical excision of the tumor. Only 13.6% patients have features of carcinoid syndrome during admission.<sup>4</sup> Our patient described flank pain and recent high blood pressure. There was no carcinoid syndrome in our case.

There are no specific signs on CT-Scan or Magnetic resonance imaging (MRI) for diagnosing carcinoid tumor of the kidney.<sup>5,6</sup> Our patient had a solid tumor on the CT-Scan. Owing to the rarity of this lesion, appropriate management is not well established. In all cases, either a total or partial nephrectomy was performed<sup>7</sup>. The final diagnosis depends on histology findings when positive reactions to silver stains which are specific markers for neuroendocrine tissue, including neuron-specific enolase, synaptophysin, and chromogranin.<sup>8,9</sup> In our case the tumor tested positive for anti-CK antibody, synaptophysin, and chromogranin. The only predictive prognostic factor for these tumors is its staging. However, survival rates are excellent, with 73.1% of patients without evidence of disease after treatment.<sup>10</sup> After a follow-up of 10 months our patient was fine without evidence metastasis.

## CONCLUSION

Carcinoid tumours are low-grade malignant tumours that arise from neuroendocrine cells. The kidney is a localization of this tumor as there are no neuroendocrine cells in a normal renal parenchyma. The pathogenesis of carcinoid tumor of the kidney is not well understood. There are a numbers of hypothesis that are still being debated. There are specific clinical and radiological features that can differentiate it from a renal cell carcinoma. Complete surgical excision is the only recommended treatment for localized renal carcinoid tumor. Its diagnosis can only be established after histopathological findings on surgical specimen for now.

## CONSENT

This work was conducted at the department of urology of Hassan II Teaching Hospital. All necessary protocols in accordance of the ethics committee regulations of the aforementioned hospital and that of the University Hospital of Fez were followed.

Written consent was obtained from the patient for publication of this case report and its accompanying images.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

**FUNDING:** None.

## REFERENCES

1. Resnick ME, Unterberger H, McLoughlin PT. Renal carcinoid producing the carcinoid syndrome. *Med Times*. 1966; 94(8): 895-896.
2. Isobe H, Takashima H, Higashi N, et al. Primary carcinoid tumor in a horseshoe kidney. *Int J Urol*. 2000; 7(5): 184-188. doi: [10.1046/j.1442-2042.2000.00160.x](https://doi.org/10.1046/j.1442-2042.2000.00160.x)
3. Begin LR, Jacobson SA, Aprikian AG. Renal carcinoid and horseshoe kidney: A frequent association of two rare entities: A case report and review of the literature. *J Surg Oncol*. 1998, 68(2): 113-119. doi: [10.1002/\(SICI\)1096-9098\(199806\)68:2<113::AID-JSO8>3.0.CO;2-9](https://doi.org/10.1002/(SICI)1096-9098(199806)68:2<113::AID-JSO8>3.0.CO;2-9)
4. Singh PP, Malhotra AS, Kashyap V. Carcinoid tumor of the kidney: An unusual renal tumor. *Indian J Urol*. 2009; 25(4): 537-538. doi: [10.4103/0970-1591.57921](https://doi.org/10.4103/0970-1591.57921)
5. Tanaka T, Yamamoto H, Imai A, et al. A case of primary renal carcinoid tumor. *Case Reports in Urology*. 2015; 2015: 736213. doi: [10.1155/2015/736213](https://doi.org/10.1155/2015/736213)
6. Romero FR, Rais-Bahrani S, Permpongkosol S, Fine SW, Kohanim S, Jarett TW. Primary renal carcinoid tumors of the kidney. *J Urol*. 2006; 176: 2359-2366.
7. Korkmaz T, Seber S, Yavuzer D, Gumus M, Turhal NS. Primary renal carcinoid: Treatment and prognosis. *Crit Rev Oncol Hematol*. 2013; 87(3): 256-264. doi: [10.1016/j.critrevonc.2013.02.003](https://doi.org/10.1016/j.critrevonc.2013.02.003)
8. Kajiwarra H, Hirabayashi K, Miyazawa M, et al. Immunohistochemical expression of somatostatin type 2A receptor in neuroendocrine carcinoma of uterine cervix. *Arch Gynecol Obstet*. 2009; 279(4): 521-525. doi: [10.1007/s00404-008-0760-y](https://doi.org/10.1007/s00404-008-0760-y)
9. Omiyale AO, Venyo AK. Primary carcinoid tumour of the kidney: A review of the literature. *Adv Urol*. 2013; 2013: 579396. doi: [10.1155/2013/579396](https://doi.org/10.1155/2013/579396)
10. Colin S. Linke, Scott Shie. An asymptomatic primary renal carcinoid tumor: A case report. *Urol Case rep*. 2016; 7: 70-71. doi: [10.1016/j.eucr.2016.04.018](https://doi.org/10.1016/j.eucr.2016.04.018)