

## Giant Renal Oncocytoma-Case Report of Incidentally Detected on Computed Tomography

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### Abstract

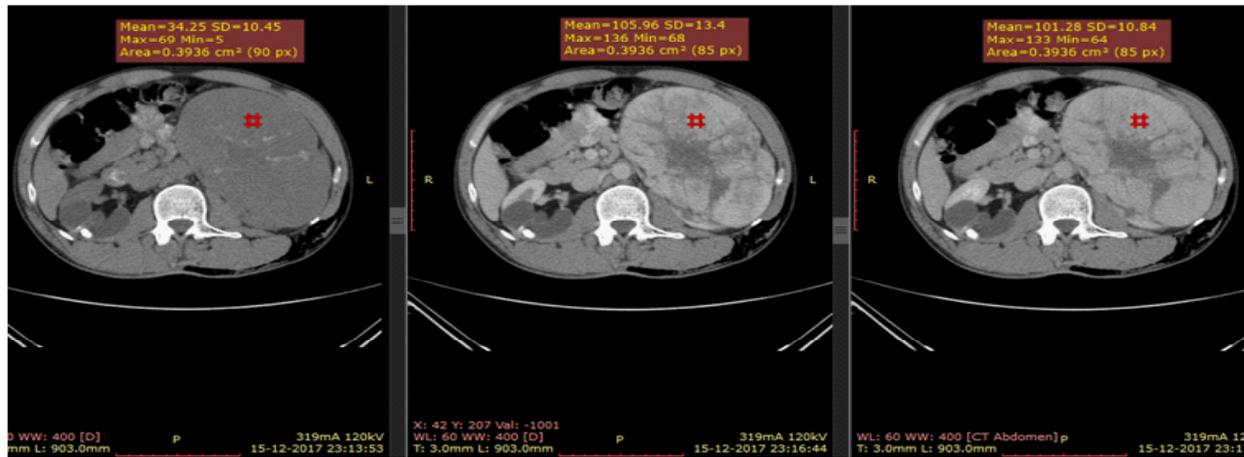
*Renal oncocytoma is a relatively benign renal tumour. The main clinical importance of this lesion is the difficulty in pre-operatively distinguishing it from renal cell carcinomas. We report a case of 44 years male who presented with blunt abdominal trauma, CECT abdomen was done and incidentally discovered a giant oncocytoma in left kidney.*

### INTRODUCTION

Renal oncocytoma is a benign renal tumour and main clinical importance is that this lesion is difficult to pre-operatively distinguished from renal cell carcinomas as their imaging features are quite similar as well as epidemiology and presentation<sup>1,2</sup>. Renal oncocytomas account for approximately 5% of resected primary adult epithelial renal neoplasms. They typically present in the 6<sup>th</sup> to 7<sup>th</sup> decades with a peak incidence at 55 years of age. There is 2:1 male predilection<sup>2,3</sup>. A central stellate scar on enhanced computed tomography (CT) and spoke-wheel-like appearance on angiography have been conventionally recognized as the features that distinguish oncocytoma from other renal tumors including renal cell carcinoma<sup>4</sup>.

### CASE REPORT

We present a case of 45 year old male who presented to the emergency department with blunt trauma abdomen and chest. He was advised CT scanning for abdomen and chest. In the contrast enhanced CT scan of the abdomen there was incidental presence of giant oncocytoma arising from the upper-mid pole of left kidney measuring 10.5cm x 14cm x 16cm and showing characteristic stellate vascular scar. This lesion was well encapsulated and was displacing the surrounding structure instead of invading them. (Fig a, b, c, d) No retroperitoneal lymphadenopathy was seen. Retrospectively there was no history of haematuria however the patient felt an uneasy dragging sensation on left upper abdomen.



**Figure 1.** A 42 year old presenting in emergency department and CECT was done to rule out any solid visceral organ injury. There was an incidental finding of large lesion of size 10.5cm X 14cm X 16cm arising from lower pole of left kidney showing central stellate scar and surrounding enhancement without invasion into surrounding structures.

### DISCUSSION

Renal oncocytoma is benign tumour and account for approximately 5-7% of resected primary epithelial renal neoplasms in adults. Its demographics are that it present in 6<sup>th</sup> decade with male predominance as seen in renal cell carcinoma. It is important to distinguish it from RCC before surgery as they mostly resemble in demographics, epidemiology and imaging features<sup>3,4,5</sup>. Approximately ¾ of the renal oncocytoma are asymptomatic rarely it may present with large mass in the flank or abdomen as seen in our case. Occasionally hypertension, haematuria or pain may be the presenting complaint. It may be associated with tuberous sclerosis<sup>6</sup>. Oncocytomas originate from intercalated tubular cells of the collecting tubules and are composed of large, swollen eosinophilic cells of protuberant mitochondrial components<sup>7,8</sup>. Histopathological examination distinguish an oncocytoma from a renal cell carcinoma, as the latter may also have oncocytic elements and necrosis is not seen in oncocytoma<sup>2,9</sup>.

On imaging oncocytoma appear as sharply demarcated lesions of variable size, but often large at presentation. An important sign of central stellate scar which is seen in our case, is only seen in a third of cases moreover it is also seen in renal cell carcinomas. The only reliable

feature which is seen on contrast enhanced CT scan is evidence of metastasis or aggressive infiltration into adjacent structures, in which case the diagnosis of renal cell carcinoma can be safely made<sup>5,7,9</sup>.

Ultrasound demonstrates a well-circumscribed mass isoechoic to rest of the kidney and central scar may be visible though occasionally<sup>8,9,10</sup>.

On MR Imaging oncocytoma is hypointense on T1 and hyperintense renal cortex on T2 with hypointense stellate scar with homogenous enhancement post gadolinium injection<sup>10,11</sup>.

### CONCLUSION

The presence of stellate scar in oncocytoma and other features like assumption of giant size without metastasis and invasion of surrounding structures are helpful in distinguishing the oncocytoma from the renal cell carcinoma. The pre-operative distinction between the two is important as their treatment modalities differ.

### REFERENCES

- [1] Kim JI, Cho JY, Moon KC, Lee HJ, Kim SH. Segmental enhancement inversion at biphasic multidetector CT: characteristic finding of small renal oncocytoma. *Radiology* 2009;252:441- 8.

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- [2] Woo S, Cho JY, Kim SH, Kim SY. Comparison of segmental enhancement inversion on biphasic MDCT between small renal oncocytomas and chromophobe renal cell carcinomas. *AJR Am J Roentgenol* 2013;201:598-604.
- [3] Dyer R, DiSantis DJ, McClennan BL. Simplified imaging approach for evaluation of the solid renal mass in adults. *Radiology* 2008;247:331-43.
- [4] Kutikov A, Smaldone MC, Egleston BL, Manley BJ, Canter DJ, Simhan J, et al. Anatomic features of enhancing renal masses predict malignant and high-grade pathology: a preoperative nomogram using the RENAL Nephrometry score. *Eur Urol* 2011;60:241-8.
- [5] Pierorazio PM, Hyams ES, Tsai S, Feng Z, Trock BJ, Mullins JK, et al. Multiphasic enhancement patterns of small renal masses ( $\leq 4$  cm) on preoperative computed tomography: utility for distinguishing subtypes of renal cell carcinoma, angiomyolipoma, and oncocytoma. *Urology* 2013;81:1265-71.
- [6] Verma SK, Mitchell DG, Yang R, Roth CG, O’Kane P, Verma M, et al. Exophytic renal masses: angular interface with renal parenchyma for distinguishing benign from malignant lesions at MR imaging. *Radiology* 2010;255:501-7.
- [7] Quinn MJ, Hartman DS, Friedman AC, et al. Renal oncocytoma: new observations. *Radiology* 1984; 153:49–53
- [8] Davidson AJ, Hayes WS, Hartman DS, McCarthy WF, Davis CJ Jr. Renal oncocytoma and carcinoma: failure of differentiation with CT. *Radiology* 1993; 186:693–696
- [9] Kutikov A, Uzzo RG. The R.E.N.A.L. nephrometry score: a comprehensive standardized system for quantitating renal tumor size, location and depth. *J Urol* 2009;182:844-53.
- [10] Schieda N, McInnes MD, Cao L. Diagnostic accuracy of segmental enhancement inversion for diagnosis of renal oncocytoma at biphasic contrast enhanced CT: systematic review. *Eur Radiol* 2014;24:1421-9.
- [11] Taura T, Nakamura K, Takashima S, Kaminou T, Yamada R, Shuto T, et al. Heterogeneity of hepatic parenchymal enhancement on computed tomography during arterial portography: quantitative analysis of correlation with severity of hepatic

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