

There is no currently recommended systemic therapy for recurrence or metastasis of RMTSCC. In our investigation, one case was reported with a good response to sunitinib in RMTSCC with low nuclear grade.¹⁶ In contrast, other RMTSCCs with high nuclear grade did not respond to chemotherapy that included sunitinib, axitinib, and temsirolimus. As the second-line therapy, one paper has reported about efficacy of nivolumab in non-clear cell RCC patients including one case of RMTSCC.¹⁷ CT showed a stable tumor at 6 months after nivolumab treatment, but the nivolumab was stopped at 8 months because of tumor progression. In the future, we will report the detail of clinical course after recurrence.

Conclusion

We presented a case of RMTSCC with high nuclear grade. After nephrectomy, metastasis at second lumbar vertebra and lymph nodes recurrence occurred. The prognosis of RMTSCC with high nuclear grade is considered to be unfavorable. Further studies with a large number of cases are required to compile evidence on the follow-up course and therapeutic algorithm in RMTSCC. Additionally, biomarkers to predict the prognosis of RMTSCC are required because recurrence and metastasis occurred even in RMTSCC with low nuclear grade. When diagnosing RMTSCC, clinicians should carefully observe the nuclear grade of the neoplastic cells and the area occupied by these cells with high nuclear grade.

Ethics

We obtained written informed consent from the subject.

Acknowledgement

We thank Mr Shinichi Norimura for his excellent technical assistance.

Conflict of interest

The authors declare no conflict of interest.

Editorial Comment

Editorial Comment to Case of renal mucinous tubular and spindle cell carcinoma with high nuclear grade


This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

References

- 1 Lopez-Beltran A, Scarpelli M, Montironi R, Kirkali Z. 2004 WHO classification of the renal tumors of the adults. *Eur. Urol.* 2006; **49**: 798–805.
- 2 Wu XR, Chen YH, Sha JJ *et al.* Renal mucinous tubular and spindle cell carcinoma: a report of 8 cases and review of the literature. *Diagn. Pathol.* 2013; **8**: 206.
- 3 Srigley JR, Delahunt B, Eble JN *et al.* The International Society of Urological Pathology (ISUP) vancouver classification of renal neoplasia. *Am. J. Surg. Pathol.* 2013; **37**: 1469–89.
- 4 Hes O, Hora M, Perez-Montiel DM *et al.* Spindle and cuboidal renal cell carcinoma, a tumour having frequent association with nephrolithiasis: report of 11 cases including a case with hybrid conventional renal cell carcinoma/spindle and cuboidal renal cell carcinoma components. *Histopathology* 2002; **41**: 549–55.
- 5 Moch H, Cubilla AL, Humphrey PA, Reuter VE, Ulbright TM. The 2016 WHO classification of tumours of the urinary system and male genital organs-part A: renal, penile, and testicular tumours. *Eur. Urol.* 2016; **70**: 93–105.
- 6 Bulimbasic S, Ljubanovic D, Sima R *et al.* Aggressive high-grade mucinous tubular and spindle cell carcinoma. *Hum. Pathol.* 2009; **40**: 906–7.
- 7 Uchida S, Suzuki K, Uno M *et al.* Mucin-poor and aggressive mucinous tubular and spindle cell carcinoma of the kidney: two case reports. *Mol. Clin. Oncol.* 2017; **7**: 777–82.
- 8 Zhao M, He XL, Teng XD. Mucinous tubular and spindle cell renal cell carcinoma: a review of clinicopathologic aspects. *Diagn. Pathol.* 2015; **10**: 168.
- 9 Sokolakis I, Kalogirou C, Frey L *et al.* Mucin-poor mucinous tubular and spindle cell carcinoma of the kidney presented with multiple metastases two years after nephrectomy: an atypical behaviour of a rare, indolent tumour. *Case Rep. Urol.* 2017; **2017**: 6597592.
- 10 Sakatani T, Okumura Y, Kuroda N *et al.* Mucinous tubular and spindle cell carcinoma with a high nuclear grade and micropapillary pattern: a case report. *Mol. Clin. Oncol.* 2017; **7**: 976–80.
- 11 Pivovarcikova K, Peckova K, Martinek P *et al.* “Mucin”-secreting papillary renal cell carcinoma: clinicopathological, immunohistochemical, and molecular genetic analysis of seven cases. *Virchows Arch.* 2016; **469**: 71–80.
- 12 Yan L, Huang B, Xue L, Lu Q, Wen J, Wang W. Contrast-enhanced ultrasound characterization of renal mucinous tubular and spindle cell carcinoma: report of two cases. *J. Clin. Ultrasound* 2015; **43**: 55–8.
- 13 Arafah M, Zaidi SN. Mucinous tubular and spindle cell carcinoma of the kidney with sarcomatoid transformation. *Saudi J. Kidney Dis. Transpl.* 2013; **24**: 557–60.
- 14 Kuroda N, Hes O, Michal M *et al.* Mucinous tubular and spindle cell carcinoma with Fuhrman nuclear grade 3: a histological, immunohistochemical, ultrastructural and FISH study. *Histol. Histopathol.* 2008; **23**: 1517–23.
- 15 Rakozy C, Schmahl GE, Bogner S, Storkel S. Low-grade tubular-mucinous renal neoplasms: morphologic, immunohistochemical, and genetic features. *Mod. Pathol.* 2002; **15**: 1162–71.
- 16 Larkin J, Fisher R, Pickering L *et al.* Metastatic mucinous tubular and spindle cell carcinoma of the kidney responding to sunitinib. *J. Clin. Oncol.* 2010; **28**: e539–40.
- 17 Koshkin VS, Barata PC, Zhang T *et al.* Clinical activity of nivolumab in patients with non-clear cell renal cell carcinoma. *J. Immunother. Cancer* 2018; **6**: 9.

Renal mucinous tubular and spindle cell carcinoma (RMTSCC) is a relatively rare type of malignancy arising from renal parenchyma, which can be characterized by tiny, long tubules lined by cuboidal cells with or without spindled cells separated by pale mucinous stroma.¹ Although

RMTSCC is described in the previous literature as a low-grade tumor, it has a wide range of histological spectrum ranging from low to high grade, sometimes leading to dismal prognosis. To date, number of the literatures are limited up to around hundred, the biological behavior and clinical outcomes, especially metastatic potential of RMTSCC is to be undefined.^{1,2} More recently, Wang *et al.* found chromosomal losses and somatic mutations of genes in the Hippo pathway in RMTSCC.³ They performed an integrative analysis of 907 renal cell carcinoma samples from in-house and TCGA dataset and identified VSTM2A and IRX5 as novel cancer-specific biomarkers in MTSCC.³ The majority of non-RMTSCC tumors demonstrated negative or low expression of VSTM2A, while IRX5 being suggested as a lineage-specific biomarker, showing moderate to high expression in MTSCC tumors.³ There are some metastatic RMTSCC cases which are linked to sarcomatoid differentiation.^{4,5} Given all these facts, clinicians better be aware that patients with RMTSCC especially with sarcomatoid features should undergo frequent medical checkup according to high grade clear cell carcinoma after surgery even with curative intent.

Teruo Inamoto M.D., Ph.D.  and Haruhito Azuma M.D., Ph.D.
 Department of Urology, Osaka Medical College, Takatsuki,
 Osaka, Japan
 tinamoto@osaka-med.ac.jp

DOI: 10.1002/iju5.12089

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Ren Q, Wang L, Al-Ahmadie HA *et al.* Distinct genomic copy number alterations distinguish mucinous tubular and spindle cell carcinoma of the kidney from papillary renal cell carcinoma with overlapping histologic features. *Am. J. Surg. Pathol.* 2018; **42**: 767–77.
- 2 Kuthi L, Jenei A, Hajdu A *et al.* Prognostic factors for renal cell carcinoma subtypes diagnosed according to the 2016 WHO renal tumor classification: a study involving 928 patients. *Pathol. Oncol. Res.* 2017; **23**: 689–98.
- 3 Wang L, Zhang Y, Chen YB *et al.* VSTM2A overexpression is a sensitive and specific biomarker for mucinous tubular and spindle cell carcinoma (MTSCC) of the kidney. *Am. J. Surg. Pathol.* 2018; **42**: 1571–84.
- 4 Ursani NA, Robertson AR, Schieman SM, Bainbridge T, Srigley JR. Mucinous tubular and spindle cell carcinoma of kidney without sarcomatoid change showing metastases to liver and retroperitoneal lymph node. *Hum. Pathol.* 2011; **42**: 444–8.
- 5 Kenney PA, Vikram R, Prasad SR *et al.* Mucinous tubular and spindle cell carcinoma (MTSCC) of the kidney: a detailed study of radiological, pathological and clinical outcomes. *BJU Int.* 2015; **116**: 85–92.