



PEER-REVIEW REPORT

Name of journal: *World Journal of Radiology*

Manuscript NO: 72679

Title: Decreased cross-sectional muscle area in male patients with clear cell renal cell carcinoma and peritumoral collateral vessels

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05928806

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Japan

Author's Country/Territory: Italy

Manuscript submission date: 2021-10-24

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-10-25 00:16

Reviewer performed review: 2021-10-25 01:16

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

Dear Author, I am sincerely pleased to review your manuscript. I read with interest the paper that the presence of collateral blood vessels in ccRCCs is associated with a decrease in SMM. As stated in the limitation, clinical data could not be obtained, so the results are from univariate analysis only and the evidence level is low, but I think your point of view is very important and interesting.

- Is the formula for calculating TAMA_C correct as follows? : $TAMA_C/age$. Please describe in the Methods how you corrected for age.
- In figure.2, please show that there is a significant difference between the two groups.
- Show the Intraclass correlation coefficient for the TAMA measurements.
- In this study, was there any difference in the formation of collateral blood vessels between RCC at the level of the lower renal pole and CC at the level of the upper renal pole?
- For table.3, why don't you use the Kaplan-meier method to check survival and TAMA? Couldn't you get the survival time? If you can get survival data, you should draw a Kaplan-meier curve.



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Reviewer's code: 05429162

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Academic Fellow, Chief Doctor, Doctor, Research Fellow, Research Scientist

Reviewer's Country/Territory: Japan

Author's Country/Territory: Italy

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input checked="" type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input checked="" type="checkbox"/> Grade D: Rejection
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Re-review	[<input checked="" type="checkbox"/>] Yes [<input type="checkbox"/>] No
Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No

SPECIFIC COMMENTS TO AUTHORS

Summary Federico et al. performed a quantitative analysis of cross-sectional muscle area in make patients with clear renal cell carcinoma with/without peritumoral collateral vessels. Although the authors showed decreased cross-sectional muscle area was observed in clear cell renal cell carcinoma with peritumoral collateral vessels, I cannot recommend this article for publication because it has extensive problems. Major points

- 1) Introduction; The authors hypothesized decreased cross-sectional total abdominal muscle area is present in patients with ccRCC and peritumoral collateral vessels as a metabolic systemic consequence related to a locally advanced disease. It seems that this is the main point to perform the study later described in this manuscript. However, there is no rationale whether presence of decreased cross-sectional total abdominal muscle area is related to locally advanced disease nor metabolic systemic consequence.
- 2) Materials and methods; The authors excluded female patients and non-Caucasian ethnicity patients. However, there is no reasonable evidence that these patients should be excluded from skeletal muscle quantification studies with certain reasons (Campi et al. *Minerva Urol Nephrol.* 2021 Oct 29. Online ahead of print). Please clarify why patients having these characters were excluded from this study.
- 3) Materials and methods; The timing of CT imaging used for this study was not described. The timing of CT imaging is highly important for this study as the skeletal muscle quantity is assumed to be decreased as the disease progresses (Gu et al. *Sci Rep.* 2017 Aug 8;7(1):7587.). Usually, in retrospective studies, the timing of CT imaging used was the images taken within 28-day before the initial therapy (Choi et al. *PLoS One.* 2015 Oct 5;10(10):e0139749. eCollection



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2015; Sato et al. *Pancreatology*. 2021 Aug;21(5):892-902. Epub 2021 Mar 6.) 4) Materials and methods; The model and parameters used for this study is not clear. Please specify the model (i.e. number of detector rows, manufacturer of the CT scan) and parameters (i.e. thickness of CT scanning) of the CT imaging used in this study. 5) Materials and methods; The authors stated that the Shapiro-Wilk test was used for analysis of data distribution. However, the Shapiro-Wilk test is the statistical test whether a variable is normally distributed in a population. There is no result about this test shown in the result section. Also, it is not clear how to affect additional statistical analysis if the population is not distributed. Usually, the Student's t-test performed when the population is normally distributed, however, in recent article, the t-test is robust in non-normality distributed in certain conditions (Posten et al. Robustness of the Two-Sample T-Test. *Robustness of Statistical Methods and Nonparametric Statistics*. 92-99.) 6) Materials and methods; The authors did not perform multivariate analysis. In terms of large heterogeneity observed in this study, the authors should consider performing multivariate analysis to show that the decreased skeletal muscle is the independent factor. In the manuscript, the authors performed age-correction to exclude age-related effects. However, there is no method was shown in the main text. 7) Results; The staging can be a confounder of the results. The authors should perform statistical analysis to show that there is no statistical difference between ccRCCA and ccRCCp group, in terms of staging, T, N and M factor. 8) Discussion; In the section, the authors did not discuss the clinical significance of peritumoral vessels and cross-sectional muscle area. It is not clear whether the decreased cross-sectional muscle area affects patients' outcome. Minor points 1) Author contributions; The authors stated that "all the authors solely contributed to this paper". However, in this section, the corresponding author should specify each author's role played in this research (i.e. who analyzed and quantified the cross-sectional muscle area, who performed statistical analysis).



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Reviewer's code: 06125445

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Italy

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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SPECIFIC COMMENTS TO AUTHORS

From this manuscript, the authors found that there are differences in TAMA between the two groups of kidney cancer patients with and without collateral vessels. And age was not an influencing factor in the two groups of patients, and it was concluded that "TAMA driven by a reduction in patients with peritumoral collateral vessels". Generally, this is a manuscript of good quality and certain value, but I have the following questions and hope to get appropriate responses. 1. Since body mass index is an important indicator of systemic state, although the author uses TAMA as the main research index, did the authors consider the influence of body mass index on TAMA? (Maybe the body mass index of the two groups of patients is different, and TAMA may also be different? That is, does body mass index affect TAMA? These are not reflected in the baseline data and analysis). 2. In the early stage of the research design, did the authors consider using other indicators to assist in judging the changes in TAMA? For example, abdominal circumference, body mass index, occupation, etc. (for example, engaged in heavy physical labor and athletes' muscle content is significantly higher than that of normal people)?