

Comments on “Relationship between body composition and PBRM1 mutations in clear cell renal cell carcinoma: a propensity score matching analysis”

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Kidney cancer is one of the leading causes of cancer-related death worldwide and mainly comprises renal cell carcinoma, with an estimated 0.4 million new cases worldwide in 2018¹. In 2020, Hu et al.² carried out a meta-analysis to evaluate the prognostic value of sarcopenia in patients with renal cell carcinoma and observed that patients with sarcopenia had worse overall survival compared with those without sarcopenia in renal cell carcinoma. They² concluded that larger, preferably prospective, studies were needed to confirm and update their findings. Recently, in 2023, Demirel and Dilek³ published, a study entitled “Relationship between body composition and PBRM1 mutations in clear cell renal cell carcinoma: a propensity score matching analysis” in the *Journal of the Brazilian Medical Association*³, in which they retrospectively examined the relationship between body muscle and adipose tissue composition in clear cell renal cell carcinoma patients with polybromo-1 protein (PBRM1)⁴ gene mutation³. The study³ concluded that normal attenuation muscle area is greater in patients with PBRM1 mutation, even after propensity score matching³. According to the authors, body composition plays a critical role in understanding the complex effect of PBRM1³.

This article³ has the potential to generate new systematic reviews² with retrospective designs³. As such, to contribute to the authors and journal, we outline a suggestion for novel studies,

on body composition and PBRM1 mutations, and calculated the effect sizes for values significant⁵ in the outcomes assessment before and after propensity score matching in patients with PBRM1 (Table 1). Our suggestion to researchers and physicians is that the tissues that make up the human body center⁶, namely, the abdominal region—subcutaneous adipose tissue (SAT)⁷, visceral adipose tissue (VAT)⁸; total adipose tissue (TAT)⁹⁻¹¹, intramuscular adipose tissue (IMAT)¹²⁻¹⁴, low attenuation muscle area (LAMA)¹⁵, normal attenuation muscle area (NAMA)^{16,17}, and total abdominal muscle area (TAMA)^{18,19}—should be analyzed based on the patients’ stature (mean±SD). This is necessary because it is possible to observe patients with the same stature²⁰, however, with different areas (cm²) in the abdomen (Figure 1)²¹.

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Table 1. Evaluation of age and body composition parameters before and after propensity score matching in patients with PBRM1 mutated and not mutated-unknown mutation status.

Variables	Before matching (n=291)				After matching (n=152)			
	PBRM1 mutation (+)	PBRM1 mutation (-)	p-value	d-value	PBRM1 mutation (+)	PBRM1 mutation (-)	p-value	d-value
	Mean±SD	Mean±SD			Mean±SD	Mean±SD		
Age (years)	60.1±11.1	60.3±12.7	>0.05	n/a	59.9±11.1	59.8±13.4	>0.05	n/a
SAT (cm ²)	231.2±125.8	226.2±116.8	>0.05	n/a	232.4±126.2	225.4±115.1	>0.05	n/a
VAT (cm ²)	229.4±119.3	212.3±115.8	>0.05	n/a	230.4±119.8	219.4±120.7	>0.05	n/a
TAT (cm ²)	460.6±214.2	438.6±192.2	>0.05	n/a	462.9±214.6	444.8±200.6	>0.05	n/a
IMAT (cm ²)	27.2±14.6	29.6±15.2	>0.05	n/a	27.3±14.7	29.7±17.7	>0.05	n/a
LAMA (cm ²)	58.2±24.2	55.8±22.3	>0.05	n/a	58.1±24.4	57.2±26.2	>0.05	n/a
NAMA (cm ²)	104.2±38.7	88.9±35.6	<0.05*	0.4'	104.3±38.9	90.9±37.3	<0.05*	0.3'
TAMA (cm ²)	189.6±40.9	174.3±40.8	<0.05*	0.3'	189.7±41.2	177.8±42.1	>0.05	n/a

Table and sample based on the study by Demirel and Dilek³. SAT: subcutaneous adipose tissue; VAT: visceral adipose tissue; TAT: total adipose tissue; IMAT: intramuscular adipose tissue; LAMA: low attenuation muscle area; NAMA: normal attenuation muscle area; TAMA: total abdominal muscle area. *Significant values (p <0.05). *Effect Size. n/a: not applicable.

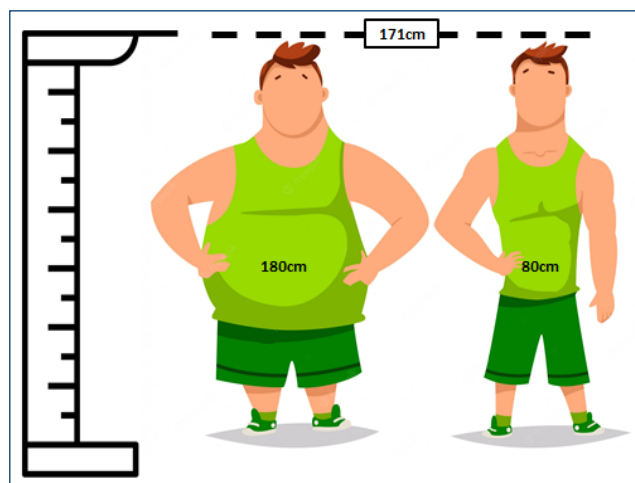


Figure 1. Patients with the same stature but with different areas in the abdomen.

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OK: Validation, Visualization, Writing – original draft, Writing – review & editing. **AG:** Validation, Visualization, Writing – original draft, Writing – review & editing. **AL:** Validation, Visualization, Writing – original draft, Writing – review & editing. **MS:** Validation, Visualization, Writing – original draft, Writing – review & editing. **RM:** Validation, Visualization, Writing – original draft, Writing – review & editing. **AM:** Validation, Visualization, Writing – original draft, Writing – review & editing. **NZ:** Validation, Visualization, Writing – original draft, Writing – review & editing. **TZ:** Validation, Visualization, Writing – original draft, Writing – review & editing. **YZ:** Validation, Visualization, Writing – original draft, Writing – review & editing. **APS:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing.

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