

Indexing glomerular filtration rate for body surface area is useful in obese subjects - Reply

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Sir,

We thank Rigalleau and colleagues for their interest in our work [1]. We completely agree with the fact that the Cockcroft formula is inaccurate when applied to obese patients. This inaccuracy was already described in the original article published by Cockcroft and Gault [2]. The MDRD formula has been elaborated from an American population which does not seem to be obese in the large majority, but without precision of the real percentage of obesity (defined as body mass index $>30\text{kg/m}^2$). In the MDRD study, the mean weight was 79.6 ± 16.8 kg. In our work, we have clearly shown that body surface area (BSA) correction has little influence on glomerular filtration rate (GFR) results in non-obese patients [1]. However, using this formula, developed and adapted for non-obese patients, re-correcting its results by BSA with obese parameters and asserting that the result represents non-corrected GFR is thus a nonsense. The fundamental question is to know if the simplified MDRD formula is accurate in its current presentation (with BSA correction integrated which, once again, has little impact on the results because it considers the population as non-obese), in a specific obese population. We have shown that 'true' GFR in obesity is closer to absolute, non-corrected GFR than to BSA-corrected GFR. This assertion is made in an absolute manner. Measured GFR (e.g. with $[^{51}\text{Cr}]\text{EDTA}$ clearance) must be used to validate MDRD results (and not the inverse!). Some authors, including Rigalleau *et al.*, have studied the MDRD formula's accuracy in obese patients [3,4]. All authors used BSA-corrected GFR (which is misleading), but conclusions of these studies are divergent. Other studies are thus required. In this field of research, better methodology is necessary, i.e. with use of non-corrected GFR and of calibrated creatinine [1,5]. While we await such studies, we recommend continuing using $[^{51}\text{Cr}]\text{EDTA}$ clearance in obese patients when precise, accurate GFR determination is needed (i.e. before proposing a slimming diet regimen or chemotherapy, for a living kidney donor, when proteinuria is detected, etc.).

Conflict of interest statement. None declared.

References

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