Reviewer's report

Title: Estimation of glomerular filtration rate by a radial basis function neural network in patients with type-2 diabetes mellitus

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Reviewer: Boriana Deliyska

Reviewer's report:

Diabetes mellitus is the most common cause of chronic kidney disease (CKD) all over the world. The estimation of glomerular filtration rate (GFR) is of basic necessities for staging of CKD.

For this reason the theme of the article is up to date. The article is written in comprehensible academic medical English language.

The authors propose an original methodology for assessing GFR, which is currently slightly known and discussed in medical literature. They are appropriate and well described.

The aim of this study is not well defined as a separate part of the abstract. All my comments listed below are in category Minor Essential Revisions

Because of the specificity of methodology used in this study is appropriate a more detailed description of RBF in “Materials and methods”. The authors present a precise displaying of the data in “Materials and methods”, but there is not a clear explanation about the merging of patient groups with CKD stages I and II and IV and V. The number of patients (207) included in the study is sufficient for statistical analysis.

There is a good attempt for assessment of the precision of different methods for estimation of GFR.

The manuscript adhere to the relevant standards for reporting and data deposition.

The discussion and conclusions are well balanced and adequately supported by the data. The authors left open the question about the accuracy of the method for determining GFR using multivariate RBF, which would have a positive role for further research in this direction.

The title and abstract convey what has been found.

The references include 28 papers, more of them from the last five years.

The writing is acceptable.

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Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests