Reviewer's report

Title: Novel mutations of PKD genes in Czech population with autosomal dominant polycystic kidney disease

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Reviewer: Muhammad Naeem

Reviewer's report:

The authors have described mutation analysis of autosomal dominant polycystic kidney disease in 56 unrelated Czech patients. They screened two genes, PKD1 & PKD2 by a combination of methods for mutational analysis. They have identified 36 different PKD1 pathogenic sequence variants and a deletion in 37 unrelated families and two mutations in PKD2 gene; 25 mutations are unique for Czech patients (not reported in other populations so far). Considering difficult mutation screening of the PKD genes, the authors have described substantial mutational data and may be considered for publication.

Following changes are suggested in the manuscript.

Minor Essential Revisions

Abstract: Description of results in abstract section is somewhat confusing; may be revised as following: ‘Screening of PKD1 gene revealed 36 different likely pathogenic germline sequence changes in 37 unrelated families/individuals. Twenty-five of these sequence changes were unique for the Czech population. Moreover, a novel large deletion was found within the PKD1 gene in one patient using the technique of MLPA. Via the mutational analysis of PKD2 gene, two additional likely pathogenic mutations were detected.’

Main Manuscript: Results subheading: Indeterminate sequence changes: these sentences may be corrected as following:

‘The possible splice-site mutations PKD1/c.11712+8C>A and PKD2/c.2019+9A>C segregate with the disease in affected families and are the only possible mutations found in patients 409 and 466, respectively.’

‘Despite its segregation within afflicted family, also the substitution PKD1/p.Ala1201Val (patient 308) has been determined as benign by both software programs used (PolyPhen2 and SIFT). Although the substitution PKD1/p.Ala3240Thr (patient 412) has been predicted as possibly damaging by PolyPhen2, SIFT has defined it as benign as well.’

Conclusion (At the end of the manuscript): is only a summary of results. It may include importance or significance of the current study relevant to clinical genetic & diagnostic applications.

The authors have used two words ‘affected’ and ‘afflicted’ interchangeably to describe ADPKD patients. A uniform pattern may be adapted throughout.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests