Reviewer's report

**Title:** The fate of bone marrow-derived cells carrying a polycystic kidney disease mutation in the genetically normal kidney

**Version:** 2  **Date:** 18 January 2012

**Reviewer:** Anna Paola Paola Mitterhofer

**Reviewer's report:**

Major Compulsory Revisions

1. In the paper the aim of the study is not clearly expressed and the assumptions described in the background don’t bind together. Moreover the key points are not correct.

Authors describe the study but not the objectives of the study.

Authors assess that “In light of reports cells derived from hematopoietic stem cells in the bone marrow (BM) can integrate into the kidney and form epithelial cells” referring to papers published in 2001. They don’t consider that it has been widely demonstrated in subsequent studies that the role of bone marrow-derived cells to epithelial integrity restoration after an ischemic insult is very poor and not significant. (Reference 15., 16., Kidney tubular epithelium is restored without replacement with bone marrow-derived cells during repair after ischemic injury Duffield JS, Bonventre JV. Kidney Int. 2005 Nov;68(5):1956-61).

Authors assess that “the reoccurrence of PKD has not been reported in a genetically normal renal graft” but nevertheless they decide to use PKD (Polycystic Kidney Disease) mutant bone marrow-derived cells to evaluate PKD cell capability of expressing the disease phenotype in ischemic genetically normal kidney. This to explain a phenomenon which notoriously doesn’t happen.

2. Methods applied seem to be well conduct referring to a previous study of the same authors on post-ischemic acute tubular necrosis. Authors show many nice figures, well described.

3. Part of methods are described in background and should be shifted. (from “We used a mouse model to test whether mutant…. to “to induce transplanted BM cells to home to the kidney and give rise to renal epithelial cells”.

4. The data reported are well described but the research doesn’t constitute a useful contribution to the field

5. Data consist in the careful description of pathology results of the experiment conducted obtained step by step, with three-dimensional reconstruction and description
6. most conclusions are foregone Authors discuss data already known in literature, related to the role of BM-derived cells in ischemia restoration, but they refer to these reports only in the discussion and conclusion. This means that study design is completely unfounded.

7. limitations of the work are not clearly stated

8. title and abstract accurately convey what has been found Authors avoid the ischemic field already explored with BM-derived cells

9. the writing is acceptable

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare any competing interests in relation to the paper.