Reviewer's report

Title: Review: Ischemic Renal Injury

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Reviewer: Thorsten Feldkamp

Reviewer's report:

In the review article “Ischemic Renal Injury” by Munshi and colleges the authors summarize the pathobiology of ischemic acute kidney injury (AKI). They discuss the three major mechanisms of ischemic kidney injury during AKI: tubular damage, activation of the immune system and vascular alteration. Furthermore they highlight the potential risk of progression from AKI to chronic kidney disease (CKD) and describe the mechanisms, which may be involved in this process. In the last part of the review they discuss two approaches for the treatment or the prevention of ischemic AKI that proved to be beneficial in animal studies: stimulation of hypoxia inducible factor (HIF) and preconditioning. The review is well and concise written, the major mechanisms are discussed and the relevant clinical problem of progression from AKI to CKD is highlighted.

Major points:

1) It is not clear to me from which source (paper or book chapter) the information that the renal cortex receives 90 to 95 % of the renal blood flow is derived.

2) In the section about the pathobiology of ischemia there is no real description of the tubular mechanisms which are involved in ischemic renal injury. Perhaps the authors might consider mentioning those mechanisms (e.g. cytoskeletal alteration, tubular obstruction, mitochondrial damage, radical production) in this section.

3) The relation of the first paragraph of the chapter “Ischemia Reperfusion Injury and Preconditioning” to the rest of this chapter is not overtly evident. The authors might wish to add some more details, so that the reasons why the mentioned studies are discussed here become evident.

4) In the legend to Fig. 1 the authors mention a third regulatory mechanism of autoregulation. It would enhance the understanding of the renal autoregulation if the authors would describe this mechanism further and would provide some citation for this.

Minor Points

1) The labelling A and C in Fig. 1 are probably misplaced.

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 that I have no competing interests.