Reviewer's report

Title: Influence of acute pancreatitis on the responsiveness of rat mesenteric and pulmonary arteries

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Reviewer: Werner Hartwig

Reviewer's report:

Camargo et al. investigated the responsiveness of rat mesenteric and pulmonary arteries in acute pancreatitis. In an experimental design they isolated these vessels and performed in vitro experiments using acetylcholine, sodium nitroprussid and phenylephrine to assess vascular reactivity. The authors conclude that acute pancreatitis induces endothelium-dependent changes in relaxation/contractile response in these vessels which might be involved in the pathogenesis of systemic organ injury.

Overall, the manuscript is well written. However, the reviewer would suggest some improvements:

1. Arterial endothelium damage has been suggested to be responsible for the observed findings. It would be helpful if the authors could provide more evidence to support this hypothesis (e.g. electron microscopy). Since all measurements of vascular reactivity have been performed in vitro, it may also help to assess vascular changes in vivo (e.g. mesenteric vessels are well accessible for intravital microscopy).

2. Changes have been presented only for the very early course of acute pancreatitis (4 hours). Since the maximum expression of inducible NOS is at about 6-12 hours after induction of acute pancreatitis, the reviewer suggests additional experiments at some later point to show possible changes also in pulmonary arteries.

3. Do the findings correlate with the severity of organ injury in these models of acute pancreatitis?

Minors:

Methods: Please provide the amount of animals used for each experiment. Furthermore, data should be presented characterizing the severity of the disease in each experimental group.

Some spelling errors, e.g.:
Page 3: â#|have showedâ#|
Page 6: â#|.proinflammatory cytokines is â#|
Page 8: â#|cut into to ringsâ#|. 
Figure 1: no significances provided (but in figure legends)
Table 1: just maximal relaxation response presented. Somewhat confusing with phenylephrine

**What next?**: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**Declaration of competing interests**:
I declare that I have no competing interests