**Reviewer’s report**

**Title:** Luminal lactate in acute pancreatitis - Validation and relation to disease severity.

**Version:** 1  **Date:** 30 November 2011

**Reviewer:** Hans-Ulrich Schulz

**Reviewer’s report:**

In this research article, the authors tested the hypothesis that intestinal lactate release occurs in acute pancreatitis and that a single measurement of rectal luminal lactate at admission predicts the severity of acute pancreatitis including length of hospital stay, need of intensive care and mortality.

Rectal luminal equilibration dialysis for the measurement of gut luminal lactate was performed in 30 consecutive patients with acute pancreatitis. Three patients had to be excluded from analysis because of technical failure (n=1) or missing data (n=2). Of the remaining 27 patients, eight developed local complications. One patient required admission to intensive care department. Mean hospital stay was seven days. No mortality was observed.

High rectal luminal lactate was associated with low mucosal partial tension of oxygen, indicating the physiological validity of the method. Rectal luminal lactate at hospital admission was not associated with SOFA score, CRP level, length of hospital or ICU stay, development of local complications or mortality. Low precision and high bias was observed between two different lactate analyzers.

As adequately discussed by the authors themselves, the major limitation of the investigation is the limited number of patients who suffered from severe acute pancreatitis. Only one patient required intensive care and no deaths occurred. Highest SOFA score was 3. For those reasons, the clinical value of a single rectal luminal lactate measurement at admission to predict pancreatitis severity remains obscure. In addition, two different methods of lactate analysis yielded different results. However, since high rectal luminal lactate concentration was associated with low mucosal partial tension of oxygen, the physiological validity of the method could be established in acute pancreatitis for the first time by this study.

The reviewer recommends major compulsory revisions to weaken the aims of the investigation by the authors. Length of hospital stay, need for intensive care and mortality aren’t appropriate study parameters in this small group of patients suffering from mild acute pancreatitis in the majority of cases in whom no single organ failure or death occurred.

**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, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.