Reviewer's report

**Title:** Renal effects of dexmedetomidine during coronary artery bypass surgery: a randomized placebo-controlled study

**Version:** 2 **Date:** 7 February 2011

**Reviewer:** Bernhard Krämer

**Reviewer's report:**

Major: Hemodynamics have to be reported to enable the reviewers and readers to judge, whether the presumed beneficial responses to study medication are influenced by side effects i.e. in the 1997 Anesthesiology paper (86: 331-345) Jalonen J et al. reported an increase of rate of hypotension during cardiopulmonary bypass as well as the need for more intravenous fluid with dexmedetomidine. Despite adherence to a study protocol mean blood pressure may well be different between groups in the present study. In the same line the authors need to report the amount and type of i.v. fluid (e.g. hydroxethylstach and Ringer's acetate) given before, during and after CABG (up to 48h) in both groups. A higher fluid intake could completely explain the higher urine output reported with dexmedetomidine. A major shortcoming in the design of the study is that baseline creatinine clearance (12-24 h) done before surgery is not reliable, since urine collection was relying on spontaneous voiding in 60 year old patients and because of the inherent risk of incomplete collection without urinary catheter placement. These considerations need also to be included in the discussion. The results of creatinine clearance should also be given quantitatively for the intention-to-treat population.

Minor: The abbreviation ECC has to be explained. A few spelling errors need correction (Fig. 1 protocol-spesified; ref. #7 patogenesis ...).

**Level of interest:** An article whose findings are important to those with closely related research interests

**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'