Reviewers report

Title: Controversial significance of early S100B levels after cardiac surgery.

Version: 1  Date: 17 September 2004

Reviewer: Anton Moritz

Reviewers report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

S100B is controversially discussed in the literature as a potential marker for adverse neurological outcome after cardiac surgery. Especially, the impact of mediastinal shed blood directly retransfused via cardiotomy suction on postoperative S100B elevation served to criticize the predictive value of this interesting marker. In this paper, Jönsson and co-workers described their method of eliminating the influence of mediastinal shed blood on postoperative S100B measurements, taking into account the half-life of S100B in serum. They tried to correlate postoperative S100B levels with neurocognitive outcome in a clinical study.

The authors found a correlation of S100B release with age, as previously reported. Remarkable is the correlation of higher S100B level one hour after surgery with impaired neurocognitive outcome, even if the better outcome with high S100B levels at TO (end of surgery) remains unexplained.

We think that this is an interesting paper, even if the mathmatic model applied can only partly eliminate the influence of S100B of extracerebral origin, as also stated by the authors. However, the model represents a step towards an improved utilization of S100B as cerebral marker in cardiac surgery. This a a very elegant study and we suggest publishing of this paper with minimal revision.

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No