Reviewer’s report

Title: Intraoperative cerebral oxygen saturation trend of values and its relationship with cognitive decline after total knee replacement

Version: 2

Date: 10 February 2014

Reviewer: Marcin Wasowicz

Reviewer’s report:

Authors of the study entitled: “Intraoperative cerebral oxygen trend of values and its relationship with cognitive decline after total knee replacement.” conducted post hoc analysis of previously published data (Acta Anaesthesiologica Scandinavica).

They hypothesized that decline of regional cerebral saturation has an association with post-operative decline. Authors should be complemented for conducting a battery of difficult psychosomatic test but unfortunately study has serious flaws.

It is hard to believe that this one factor will have influence on such a serious complications. There is no data in the manuscript on following, common postoperative factors, which can contribute to described findings:

1. Incidence of post-operative delirium
2. Incidence of intra- and post-operative hypotension
3. Incidence and severity of peri-operative anemia

It is impossible to formulate meaningful conclusions without aforementioned data being included in the analysis. If study is to be considered for publications, it will need significant revision and inclusion of proposed data.

Detailed comments:

Please define psychopathology
Lack of inclusion/exclusion criteria
What about baseline data?

Based on North American practice it is hard to believe that patients who are coming for total knee replacement and being over 65 are predominantly ASA 1 or 2.

Keep your discussion simple
• Your main finding
• How does it compare to the other, similar studies
• Limitations
• Conclusions