Reviewer’s report

Title: A comparative study of irrigation versus no irrigation during burr hole craniostomy to treat chronic subdural hematoma

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Reviewer: Lennart Henning Stieglitz

Reviewer's report:

The authors provide a restrospective study on the outcome of Burr-hole trepanation with irrigation compared with burr-hole trepanation alone in unilateral chronic subdural hematoma. A series of 151 patients from two centers is included, of which 63 receied burr-hole trepanation alone and 88 a trepanation with irrigation. The authors found no significant difference in outcome and recurrence rate, but a higher rate of pneumocrania in the irrigation group. Thus, they conclude, that irrigation is not advisable.

The report is well written, but does not allow the conclusions drawn in my opinion.

- Chronic subdural hematomas are a frequent entity. Recurrence rates are still high and may be serious for the patients. Therefore, the study question is highly relevant.

- The authors describe the dilemma of inconclusive reports by other workgroups in the literature. To provide better data and solve this dilemma, only a study with higher evidence is appropriate. Another retrospective study is not sufficient to answer this question.

- The allocation of the patients to both groups depends on the surgeon's preference only. It is not said, if each surgeon stuck to his chosen procedure in all of his patients, or if he decided to use irrigation in cases with larger hematomas, fresher blood, more midline-shift pr for other reasons, marking those patients as more severe cases. Therefore, it might be the case, that the group receiving irrigation holds the more severe cases and a similar outcome might be in favour for this technique still.

- Statistical analyses are provided without giving statistical power.

- Chronic subdural hematomas are among the most frequent entities in neurosurgery. It is unclear, why only 151 were retrospectively included over a period of 4 years by two centers. That makes less than 20 cases per year and center. Depending on the number of surgeons involved (data not provided by the authors), each surgeon might lack sufficient experience to provide appropriate data that allows a general comparison of both techniques.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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I am able to assess the statistics

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