Reviewer's report

Title: Epidural analgesia is not superior to systemic postoperative analgesia with regard to preventing chronic or neuropathic pain after thoracotomy

Version: 1 Date: 19 February 2013

Reviewer: Christian Duale

Reviewer's report:

This observational study focuses on the prevention of persistent pain after thoracotomy, commonly called post-thoracotomy pain syndrome (PTPS), by epidural analgesia. The possibility of preventing postsurgical chronic pain had been suggested in the past by preclinical studies [1,2], and some large observational studies or even pilot trials have provided promising results in other surgical models [3-6]. In thoracic surgery, some studies have been published, suggesting a preventive effect of epidural blockade on PTPS, but the level of evidence was poor, due to the small sample sizes [7-10]. A Chinese survey including 159 patients failed to identify a preventive effect [11]. The neuropathic aspect – an essential issue – was usually not addressed.

Major Compulsory Revisions
a) The observational design carries most of the major biases that can be encountered in such designs. To defend the study, it must be said that randomisation is nowadays almost impossible in this context, as few ethical committees would accept a random assignment to an invasive technique. The only way to limit biases in such observational study would be to recruit a very large sample, if possible in multiple centres. This could allow some adjustment that would reduce the effect of confounding factors.
b) Another limitation is the quite high rate (22%) of lost-to-follow-up.
c) Finally, the PainDETECT may be a useful tool to identify cases likely to be neuropathic, but its quality to diagnose neuropathic pain is not excellent, compared to other tools in which a physician’s assessment is added [12].

Minor Essential Revisions
a) The abstract is too long and should only report the main results (primary endpoints and relevant secondary ones).
b) The 1st sentence of the last paragraph of the abstract is irrelevant.
c) Introduction: comparing rates between observational studies is not relevant to argue for a preventive effect (see above).
d) Introduction: most of the reports about PTPS were without any locoregional procedure.
e) The choice for the analgesic procedure should not lead only by the “discretion” of the physician. It must be driven by a panel of arguments, including
the patient’s acceptation, the medical conditions, and the physician’s experience.
f) How does dipyrone works?
g) Page 6, “All patients […] sutures”: this paragraph must be above.
h) The sample size is not justified.
i) The Results’ section is confusing; consider transferring information on tables.
j) Discussion: use a standard frame with main results, internal validity, external
validity, relevance and perspectives.
k) Discussion page 9: what means “feasible”?
l) The major references arguing for a neuropathic mechanism in PTPS are those
which used a functional exploration [13,14].
m) I do not see the usefulness of giving the details of pain DETECT.

n) Tables & comparisons: NRS & pain DETECT score are numerical outcomes. They
should be described as quartiles and ranges, not as classes. Comparisons between
groups must use a Mann-Whitney’s test (as planned in the methods).

Discretionary Revisions: none

Reference List

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests