Reviewer's report

Title: Clinical apparent thrombosis as a complication of central venous access in pediatric patients with malignancies: A 5-year single-center experience

Version: 2
Date: 3 May 2014

Reviewer: Marco Paolo P Donadini

Reviewer's report:

Dear Authors,

I read with great interest this study on a very important topic, especially in the pediatric population. I have some major and minor ones to be addressed.

Major Compulsory Revisions

1) Population: there is some confusion in the results section.
   First, it should be clear that the population of interest is represented by pediatric patients with a first episode of CVC-related thrombosis. All the analyses on this group should be presented as the main analysis. Then, all the other comparisons made between these patients and those without thrombosis or with thrombosis not related to CVC should be kept separate (instead of presenting them in sparse points of the result section, eg lines 190-194, 214-218, 242-246)
   Moreover, the issue of recurrent CVC related-thrombosis should be better separated, ie treated in a separate subgroup analysis, otherwise data may result confusing to the reader both in the abstract (please see a comment below) and in several points in the results section.

2) The issue of heparin prophylaxis is not clear in several points of the manuscript:
   - line 163/164: when exactly and how long LMWH was used in patients found positive at thrombophilia screening?
   - line 205-207: how long heparin was used in these patients? How may patients experienced CVC-related thrombosis while on prophylactic heparin (first episode)?
   -line 352/354: how many patients received heparin and how long?

3) Please provide the number of patients lost to follow-up.

4) lines 209-225: the issue of different time from CVC implantation to CVC-thrombosis among cancer entities, should be better addressed performing a survival analysis (i.e. Kaplan-Meier or Cox-analysis).

5) lines 242-246: when all these parameters were measured?

6) CVC entry site: on lines 238-240 you state subclavian CVCs showed the highest rate of thrombosis (by the way, please indicate if statistically different), whereas in the discussion section (lines 298-299) you say the opposite. Please
clarify.

7) Discussion: Please provide some comparison with data on the prevalence of CVC related thrombosis in children, coming from other studies.

8) Discussion, lines 343-345. This sentence is not supported by the results of the study and, also, is not supported by any other strong evidence. Please consider to remove it.

9) Conclusions: here there are some general considerations, not supported by the results of the study. Please consider to revise it.

Minor Essential Revisions

1) abstracts, results paragraph: (n=52) is not clear here what you are referring to, since it is not specified. Please consider to remove it.
2) Figure 1. Image quality is low, it is difficult to read word/numbers
3) Introduction, line 89: thromboembolism (not "thromboembolia")
4) Introduction, line 94: may be different from the adult population (not "in the adult...")
5) line 173/174: median time since diagnosis: please specify
6) line 186: acronyms are used without explanations
7) line 195: eight, out of?please specify. To me it should be 8 out of 17 since you are dealing with patients, not thromboses (also below, on line 200)
8) line 348: it should be regimen (not regime)
9) line 356: UFH should be in bracket, not viceversa

Discretionary Revisions

1) If you collected it, please consider to add data on the incidence of post-trombotic syndrome, if any

Level of interest: An article of importance in its field

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