Reviewer's report

Title: Measurement of endotracheal tube secretions volume by micro computed tomography (MicroCT) scan: an experimental and clinical study

Version: 1 Date: 8 February 2014

Reviewer: Gennaro De Pascale

Reviewer's report:

The authors present a study examining the capability of MicroCT scan to measure the amount and distribution of endotracheal tube secretions volume. The paper is very interesting, well written and detailed. This study improves the knowledge about this technology and its applications in the field of invasive mechanical ventilation associated complications. I also consider very interesting the microbiologically data reported and the observed absence of correlation with secretions amount, as it is known that tracheal secretions quantitative is not a reliable predictor of microbiologically positive results from lower respiratory samples.

Discretionary Revisions

- Are the authors able to report which species of Candida did they isolate? since C. albicans and C. parapsilosis have been already observed to may efficiently produce “slime” upon vascular devices (Tumbarello et al. PlosOne 2013)

- Candida isolation from BAL has been observed to be a risk factor for pseudomonas VAP (Azoulay Chest 2006). May the authors provide their hypothesis upon the lack of Pseudomonas spp. presence in collected samples?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests’