Reviewer's report

Title: Clinical Evaluation of an Air-Capsule Technique for the Direct Measurement of Intra-abdominal Pressure after Elective Abdominal Surgery

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Reviewer: Franco Valenza

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Major Compulsory Revisions

The question posed by the authors is well defined. The methods are appropriate and well described. The data are sound and the manuscript adhere to the relevant standards for reporting and data deposition.

However, the conclusions regarding the “safe performance” of the tool investigated drawn from data are not balanced and adequately supported by the data. A very low number of patients have been included into the investigation to conclude about either “organ lesions” or surgical site infection”. Authors state that patients were evaluated for “catheter fragmentation” and “catheter related infections and erosion”, but no data are presented. The 5 days follow up of morbidity is too restrictive. The sentence “it can be concluded that the direct measurement did not lead to an additional risk” (discussion) is unacceptable.

Moreover, as stated by the authors, values of IAP were close to normal range if not normal at all (did not exceed 17 mmHg at best). Values in the middle-high range of IAP are needed to validate the technique particularly for the safety aspects (organ damage for instance: would it be greater with higher pressures?).

Under this light, perhaps focusing on the reliability of the measurement would be better, rather than on the clinical evaluation stated in the title. Even so, relevant aspects such as body positioning (claimed in the introduction as a potentially relevant factor for misinterpretation of bladder pressure technique) was not investigated.

Level of interest: An article of limited interest

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'