Reviewer's report

Title: Direct intra-abdominal pressure monitoring via piezoresistive pressure measurement. A technical note.

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Reviewer: Jan De Waele

Reviewer's report:

The authors report their study on the feasibility, safety and accuracy of PRM devices for IAP measurement. The authors are to be congratulated for exploring new and simple ways to measure IAP. The subtitle here is 'a technical note', but I feel is an understatement for the contents of the manuscript. This manuscript demonstrates the safety of PRM, but alas, also the fragility, and this should prompt the industry to develop more robust devices.

One of the reasons why I feel that this is an important topic, is that PRM allow for continuous IAP measurement, which is undoubtedly a tool that will be used more frequently in the ICU. The authors however did not address this! I think that this should be stressed in the discussion as one of the main reasons why this technique should be further developed.

Furthermore, I have the following comment:

1. Comparator intravesical pressure measurement. The authors used a transvesical technique with 50mL instillation volume. Whereas this was indeed the standard at the time the study was performed, it is well known that this may lead to an overestimation of IAP. The authors did address this issue, but only used arguments why they think that this is OK (one of the main arguments I would use is that these patients were surgery patients without prolonged bladder catheterisation, where the overestimation probably is not as relevant…). The authors should rather consider that this may have been a reason why the comparison did not work out like they had hoped.