Reviewer’s report

Title: Intra-abdominal pressure alterations after large pancreatic pseudocyst transcutaneous drainage

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Reviewer: Manu Malbrain

Reviewer’s report:

I read with interest the paper by Theodossis et al. entitled “IAP alterations after large pancreatic pseudocyst transcutaneous drainage”. The article is short and to the point on a clinically relevant topic and what some even call a “sexy subject”. However we have some comments.

The English is poor and sometimes gives the impression that the article was written in a hurry. The text is also full of typographical errors. I suggest that the manuscript should be substantially revised and rewritten by some-one who’s native language is English. Otherwise I suggest that the authors have a look at the following website: http://www.sfedit.net. It is of the up most importance that the manuscript is edited professionally since some believe that "There is a clear indication that badly written articles correlate with a high rejection rate."

Please use the correct definitions as recently published by the WSACS and also update the correct references, the official definitions have been published in Intensive Care Medicine [1-3]. According to these definitions IAH is defined by a sustained or repeated pathologic elevation of IAP > 12 mmHg. (No APP criterion here !); ACS is defined as a sustained IAP # 20 mmHg (with or without an APP < 60 mmHg) that is associated with new organ dysfunction / failure.

I would suggest to use mmHg instead of cmH2O to express IAP, since this is more widely used. You can easily convert from cmH2O to mmHg by dividing by the factor 1.36.

Update your reference list and refer to more recent papers also looking at pancreatitis and CT guided evacuation of collections [4-11]. Also refer to recent review papers on IAP measurement methods [12,13].

To play the devil’s advocate one could argue the meaning or rationale of this study, why were the pancreatic pseudo cysts drained (caveat risk of infection), since there was only a temporarily relief in IAP that returned to baseline values after 7 days? What was the fluid balance? Was a control CT performed to check refilling of pseudocysts or presence of hematoma or ascites formation, that could have explained the increase in IAP?

In the method section: better define the signs of chronic and acute pancreatitis that were checked for.
Results: please state the exact amount of fluids that were drained from the pseudocysts – was this indeed around 1000 ml? Maybe it was more (or less) in some patients. Based on what technique was the volume calculated on admission/inclusion (on CT? please explain)

With regard to IAP measurement please state the zero reference point that was used. Recent data show that this may substantially affect your IAP values [14,15]. Please discuss. You have also stated that you instilled 50 ml into the bladder prior to IAP measurement. Recent data however showed that instilling 50ml may increase intrinsic bladder pressure that then no longer reflects IAP [16-19]. The World Society of Abdominal Compartment Syndrome (www.wsacs.org) also advocate to instill a maximal amount of 20 ml into the bladder [1]. Please discuss.

Please explain how IAP was measured – do you mean that at each time point 3 IAP measurements were performed and then the median was taken for analysis. This median was then used for further analysis and the mean of the medians was calculated and represented in the Figure, is this correct? Why did you not use the mean of the 3 values?

In your reference list you refer to 3 articles in relation to obesity or high BMI (ref 6-8) however no data is provided whatsoever with regard to body anthropology of the patients. Please describe better your patient population, add BMI (since a recent multicenter also found that BMI was a predictor for IAH [20]). Also calculate the abdominal wall compliance (Cabd): since you have the data for the amount of volume evacuated as well as the delta IAP after evacuation you can calculate Cabd = delta volume divided by delta IAP. This would be relevant and new and unique information. Maybe IAP increased faster returning back to baseline in the patients with a low Cabd???

Minor comments
Please expand all abbreviations when used for the first time and use them in a concise way afterwards
Update reference list as suggested.
Figure 1: do not use smoothening of the interpolation line – just use a straight line between the data points, add horizontal lines at the upper and lower error bars (are these the SD?)

In conclusion: this is a very interesting small study, congratulations. Please take into account the comments above.

References


15. De Waele JJ, De Laet I, De Keulenaer B, Widder S, Kirkpatrick AW,


**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 stock options and a patent from a company (PMS) that produces an IAP measurement device, however that is not specifically related to the patient population and results from the above study