Author’s response to reviews

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

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**Author’s response to reviews:** see over
Cover letter concerning formatting changes

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

Jens Otto, Daniel Kaemmer, Andreas Biermann, Marc Jansen, Rolf Dembinski, Volker Schumpelick and Alexander Schachtrupp
BMC Surgery

Formatting changes requested
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Major Changes

Abstract - The trial registration number must be mentioned in the abstract. The last section of the abstract must be titled Trial Registration: listing the trial registry and the unique identifying number. Please note that there must be no space between the letters and numbers of the trial registration number e.g. ISRCTN12345678. Please ensure that you have also updated the abstract in the submission system to ensure it remains identical to the manuscript.

Done

Abstract

Background: The gold standard for assessment of intraabdominal pressure (IAP) is via intravesicular pressure measurement (IVP). This accepted technique has some inherent problems, e.g. indirectness. Aim of this clinical study was to assess direct IAP measurement using an air-capsule method (ACM) regarding complications risks and agreement with IVP in patients undergoing abdominal surgery.

Methods: A prospective cohort study was performed in 30 patients undergoing elective colonic, hepatic, pancreatic and esophageal resection. For ACM a Probe 3 (Spiegelberg®, Germany) was placed on the greater omentum. It was passed through the abdominal wall paralleling routine drainages. To compare ACM with IVP t-testing was performed and mean difference as well as limits of agreement were calculated.

Results: ACM did not lead to complications particularly with regard to organ lesion or surgical site infection. Mean insertion time of ACM was 4.4 days (min-max: 1-5 days). 168 pairwise measurements were made. Mean ACM value was 7.9 ± 2.7 mmHg while mean IVP was 8.4 ± 3.0 mmHg (n.s). Mean difference was 0.4 mmHg ± 2.2 mmHg. Limits of agreement were -4.1 mmHg to 5.1 mmHg. Conclusions: Using ACM, direct IAP measurement is feasible and uncomplicated. Associated with relatively low pressure ranges (<17mmHg), results are comparable to bladder pressure measurement. Trial registration: EK2024

References 1, 2, 5, 6, 7, 10, 20 & 22 - The reference list should contain all authors’ names, if there are 30 or below. The term "et al." should not be used.

Done


Minor Changes

Title - Please use sentence case in the title, both in the manuscript file and the submission system i.e. remove all unnecessary capitals (capitalize only the first word, and proper nouns, and no full
Clinical evaluation of an air-capsule technique for the direct measurement of intra-abdominal pressure after elective abdominal surgery

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