Author's response to reviews

Title: Effects of abdominal hot compresses on indocyanine green elimination - a randomized cross over study in healthy subjects

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Author's response to reviews: see over
To the Editor of

BMC Gastroenterology

MS 5695821712240386, "Effects of abdominal hot compresses on indocyanine green elimination – a randomized cross over study in healthy subjects”

Dear Editor,

in this second revision we fully addressed the latest comments of the reviewers. In the following you find a point-by-point response to their concerns. The manuscript was formatted according to the style of BMC Gastroenterology and a legend was added to table 1. In table 2 there are no abbreviations and therefore no legend was needed. We hope that this manuscript is now acceptable for BMC Gastroenterology.

Please do not hesitate to contact me in case of any further questions.

With kind regards,

Dr. Roman Huber
(for the authors)
Response to Reviewer Samir Sakka

Minor essential revisions were performed: The figure legend was added. Wrong terms were corrected. Figure 1 is fully labelled.

Response to Reviewer Daniel de Backer

ad 1. ICG-elimination can further increase, even if normal at baseline in healthy subjects. This has been shown by several authors with medications like nifedipine. The sentence (page 6) reads now: “ICG elimination can be further increased even if it is normal at baseline [13, 25].” Reference 25 was added. It was therefore clearly stated, that ICG-elimination can further increase.

ad 2. It is correct, that ICG PDR is affected in patients with sepsis before the enzymes become altered. In our study, however, we investigated healthy students. None of them had any sign of acute disease before or during the study. The combination of normal liver enzymes and excellent health status excludes sepsis and does rule out a significant deterioration of liver function. It was added, that all subjects were healthy during the study.

ad 3. Relaxation and sleep are not related with a decrease of effective splanchnic blood flow. In fact a decreased activity of the sympathetic nerve system (as during relaxation) increases splanchnic blood flow and sympathetic activation reduces hepatic blood flow as pointed out in “Background” of our manuscript. During synchronised sleep of the cat mesenteric blood flow remains unchanged while it markedly increases in desynchronised sleep (Mancia et al. 1971 for review regarding sympathetic nerve system and hepatic blood flow see also Coote 1982). This was confirmed by other authors, who found an increased splanchnic blood flow in desynchronised sleep of rabbits during different ambient temperatures (Cianci et al. 1991). In a “Pubmed” literature search I found no investigations about hepatic or splanchnic blood flow during sleep of humans but it can, according to the animal experiments, be presumed, that it does not change or increases. I furthermore did not find any literature supporting a decreased hepatic or splanchnic blood flow during sleep. The point was discussed in the “Discussion” and reads as follows:

“As most of the volunteers fell asleep during application of the hot compress, the change in arousal might have interacted with hepatic blood flow. Because synchronized and desynchronized sleep are, at least in animal models, accompanied by no changes or an increase of hepatic blood flow [31, 32], it can also be excluded.
that hepatic blood flow regulation during sleep masked the effect of the hot compress.” References 31 and 32 were added.

