Letter to the Editors

Important details to be clarified about the effect of rectal ozone on the portal vein oxygenation

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We really appreciate the interest and valuable comments from Professor Bocci and colleagues. Regarding the first question about the real dose of ozone, 40% means the concentration of 40 $\mu\text{g ml}^{-1}$ of ozone in the ozone/oxygen mixture and 300 ml is the volume, so the total dose is $40 \times 300 = 12\,000 \mu\text{g}$ (12 mg) of ozone per rectal insufflation. Secondly, the study of Knoch & Klug [1] was the major stimulant to design this study in humans. This study and another study by Bocci *et al.* [2] confirmed that the portal blood oxygen improved after rectal insufflation of an ozone-oxygen mixture meaning that ozone had a possible role in improving oxygen absorption via colonic mucosa. The scope of our study was to search for evidence of enhanced portal oxygenation after rectal ozone in humans, and we did not specifically aim to identify the mechanisms of oxygen absorption. This study confirmed improved portal vein oxygenation by direct evidence via measurement of the portal blood oxygen tension and saturation, and by indirect evidence of improved propranolol metabolism which is a totally oxidation-dependent process. We think the compounds generated by ozone reaction in the luminal content and mucosal surface of the rectum have no role in modifying the propranolol parameters. Indeed, absence of another arm of rectal oxygen only in comparison with an ozone-oxygen mixture may be a criticism but we relied upon the previous experimental work that reported the greater potency of an ozone-oxygen mixture over the oxygen alone in improving portal blood oxygen [2].

Competing Interests

There are no competing interests to declare.

REFERENCES

- 1 Knoch HG, Klug W. Ozone-oxygen therapy in proctology. *Ter Arkh* 1990; 62: 93–8.
- 2 Bocci V, Borrelli E, Corradeschi F, Valacchi G. Systemic effects after colorectal insufflation of oxygen/ozone in rabbit. *Int J Med Biol Environ* 2000; 28: 109–13.

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