

carta al editor

The rectal insufflation is not the best administration route of ozone.

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Suggestion on how to quote this paper:

Bocci, Velio; Borrelli, Enma; Zanardi, Lacopo and Travagli, Valter(2013). The rectal insufflation is not the best administration route of ozone. *Revista Española de Ozonoterapia*. Vol. 3, nº 1, pp. 99-100.

To the Editor of the *Revista Española de Ozonoterapia*

We read the letter entitled "Rectal insufflations are a valid way in ozonotherapy" by Martínez-Sánchez *et al.* (*Revista Española de Ozonoterapia*. 2012, Vol. 2, nº 1, pp. 233-235) as a feedback on our article "Oxygen-Ozone Therapy is at a Cross-Road" (*Rev. Esp. Ozono*. 2011, 1(1): 74-86). As we have been involved in this topic for longer than two decades, we felt the duty to express some reservation about the validity of the ozone administration via rectal route as well as the expanding use of infusing ozonated saline. It is obvious that the ozone administration via rectal route is the most simple and cheap way to administer ozone. However, while the physician intends to administer a total amount of 6 mg, he cannot be ever sure which is the effective ozone dose because: i) in the colorectal lumen there are feces, mucopolysaccharides that variably react and neutralize some of the administered ozone; ii) part of the gas may be involuntarily eliminated. Moreover, it must be clear that the remaining ozone is never absorbed by the rectal mucosa because it immediately reacts with the lining fluid. On the other hand, the generated H_2O_2 last only about 20 sec and only some peroxidation products can be absorbed and they have been measured in the portal and jugular veins. To the best of our knowledge, the experimental work conducted in rabbits in 2000 is the only one published clarifying this point.¹ Therefore, the dose of ozone acting as a really effective prodrug

remains uncertain and variable, and the procedure remains empirical. Moreover, in Europe at least 40% of patients refuses the rectal administration.²

On the other hand an advantage is that the patients, who accept this route and owns a reliable ozone generator can, if properly instructed, perform at home his own therapy, but this is a rare case. We are now glad to read that at Cuba the total ozone dose is no longer 10 mg (50 µg/ml) but it has been lowered to 8 mg (40 µg/ml x 200 ml of oxygen-ozone gas mixture). Indeed, the recommended ozone range is between 10-35 µg/ml. That ozone is potentially mutagenic is well known and therefore a repeated administration on the rectal mucosa must be done with caution, and the previously published dose of 10 mg was excessive and risky. It is only pretty obvious that experimental studies in rats can be done only with rectal administration of ozone. In patients, our opinion is that only the classical ozonated autohemotherapy is the most direct, precise and effective ozone administration and in such case the therapy can be done for years with real advantages and without any side effects.^{3,4}

Eventually, by considering the chronicity of diabetes type II and having as a primary objective the health of patients, we still remains surprised that Cuban diabetics treated for only 20 days by ozone rectal insufflations can improve so much as just reported by Martinez-Sanchez *et al.* in 2005.⁵ We have never intended to diminish the work of Cuban physicians and researchers but, as the medical use of ozone is so much opposed by orthodox medicine, we have the duty to indicate the most rational, precise and effective administration route.

Many thanks for your attention and best regards,
Velio Bocci, Emma Borrelli, Iacopo Zanardi, Valter Travagli

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