The pillar of an effective integrated medicine

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During the last decade, the need of an effective integrated medicine has been discussed because the patient is not simply a human body but possesses a cognitive capacity and, if appropriately stimulated, an intrinsic capacity of restoring health [1, 2]. The problem is that among several complementary medical approaches only two or three are qualified owing to an extensive biological and clinical experimentation. Conventional medicine has made remarkable progresses and although occasionally we have bad surprises as rofecoxib, it has a good quality of scientific effectiveness; but, as it will be discussed, at least for one complementary treatment, the claim that they represent “a new name for snake oil” is no longer acceptable.

We would like to briefly present the outstanding biological and clinical progress of oxygen-ozonetherapy already used in many countries. Thanks mainly to our studies [3-10] and the last generation of ozone generators, we are now able to use small but precise ozone dosages (measured in real time at 253.7 nm), well within the therapeutic range. Ozone is a strong oxidant but, when used precisely on human blood ex vivo, has proved to behave as an acceptable stressor. Ozonetherapy induces a series of graduated oxidative stresses acting on all organs able to revive the potent defence system, which counteracts the deleterious chronic oxidative stress induced by many diseases. All the biochemical and molecular pathways, well within orthodox medicine, have been clarified [3-12].

Usually 100-150 ml of blood plus the appropriate sodium citrate are collected in a sterile glass ozone-resistant bottle and an equal volume of a gas mixture (96% O₂ / 4% O₃) is added. The ozone dosage is well defined between 10 and 80 μg/ml of gas per ml of blood, i.e. 0.21-1.68 mM. The initial dose is the minimal and, for avoiding any side effects, is slowly upgraded throughout the necessary 25-35 sessions.

Ozone dissolves in the plasma and, by mostly reacting with PUFA, is consumed in a few minutes but it generates two messengers acting in a early and in a late phase: the former is represented by at most 40 μM H₂O₂ able to trigger ex vivo relevant biochemical reactions in all blood cells [3, 6, 10] and the latter is due to alkenals (mainly 4-hydroxy-2,3-trans-nonenal; 4-HNE), which forms adducts with the Cys34 locus of albumin or with glutathione. Within about five minutes, the ozonated blood is infused back into the donor patient allowing alkenals to enter into the cells’ body. The crucial result is that alkenals react with a master transcription factor present in the cytosol composed by Nrf2-Keap1. In other words, submicromolar amounts of electrophiles react with Keap1, which normally acts as a repressor of Nrf2. Consequently Nrf2 translocates into the cell nucleus and, after making a heterodimer with a small Maf protein, binds to the antioxidant response element (ARE). This is the critical event able to upregulate the synthesis of a great number of antioxidant proteins, phase II enzymes and HO-1 [11, 12]. With the progress of ozonetherapy, these protective enzymes will be able to reverse the oxidative stress induced by chronic inflammation typical of vascular diseases, age-related macular degeneration and diabetes [7]. Several million of ozonated autohemotherapy have never caused side effects but they regenerated redox homeostasis.

In conclusion, the repetition of graduated small oxidative stresses induces a multiform adaptive response. At the same time the administration of safe drugs as statins, antihypertensive, antiaggregants drugs, and antidiabetics is essential to correct a deranged metabolism. The effectiveness of conventional medicine, associated with the safe and valid support of ozonated autohemotherapy has already proved [6, 7, 10] that the concept of integrated medicine is the winning combination because it correctly associates suitable drugs with the critical stimulus of reactivating the natural defences. In contrast, the administration of antioxidants is minimally effective because only stimulated cells can actively resume their precious antioxidants. Therefore it is hoped that the scheme of integrated medicine as described here would be further evaluated for the patient benefit. We would be glad to help anyone interested.
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References


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