

INNOVATIVE PREVENTIVE CARDIOLOGY

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Optimizing the patient's lifestyle for low-risk health behaviour through professional coaching is a cornerstone in the prevention of cardiovascular disease.

«Lifestyle Medicine» is consequently an internationally recognized area of medical specialization (for example, «The Institute of Lifestyle Medicine» at Harvard University), and is defined as «the prevention and treatment of chronic lifestyle-related degenerative diseases» through evidence-based lifestyle interventions, often combined with a nutraceutical and / or pharmaceutical approach.

Psychological support to quit smoking and dietary advice for overweight patients speak for themselves.

First of all, dietary habits are of paramount importance.

The traditional Mediterranean diet should be actively implemented in this respect. Olive oil is one of the foods that has been officially included in the Mediterranean diet adherence screener. Adherence means ingesting at least 4 tablespoons of olive oil (not including cooking oil). Olive oil is rich in monounsaturated (omega-9) fatty acids and contains a unique and ample supply of olive polyphenols.

Hydroxytyrosol is currently the most studied polyphenol, and is considered responsible for the positive effects on the cardiovascular system.

Second, the patient must be actively motivated to «move» more, to minimize the number of sedentary hours per day, and to alternative extensive aerobic endurance training with more intensive training, in accordance with the guidelines of the American Heart Association.

Third, the impact of stress on the body can be diminished in particular through meditation techniques such as mindfulness and downshift moments such as meditation and yoga.

Lessons from blue zones, regions of the world where senior citizens lead healthy and active lives through their healthy lifestyles, show that it is actually possible to increase our genetically programmed life expectancy significantly and add years of quality life in good health.

Recent scientific research shows that epigenetics has a more decisive impact on our health than genetics itself.

Epigenetics refers to the non-inherited changes in gene expression caused by environmental factors, without any changes to the underlying gene sequences. Our DNA is not always our fate!

Everyone is familiar with cardiovascular risk factors such as hypertension (high blood pressure), too much cholesterol, diabetes, ... but few of us (including many of my fellow doctors) are familiar with more innovative laboratory risk factors.

A distinction has to be drawn between different LDL cholesterol particles (bad cholesterol). Unlike «LDL-2» cholesterol particles, «LDL-3» cholesterol particles are far more sensitive to oxidation and thus form atherosclerotic plaques more easily.

Oxidized cholesterol (Ox-LDL) can also be measured directly in the patient's serum. Ox-LDL cholesterol has a much stronger predictive value in the onset of atherosclerosis and the risk of myocardial infarction compared to LDL cholesterol and non-HDL cholesterol (total bad cholesterol).

Moreover, the measurement of **Lp-PLA2** (phospholipase A2 associated lipoprotein), also known as «Plate-test» is of paramount importance in estimating the risk of vascular accidents (heart attack or a stroke). This laboratory parameter determines the specific inflammatory risk of blood vessels, expressed in terms of atherosclerotic plates. A high value indicates active inflammation in the plate, so that it becomes unstable and can crack. This immediately creates thrombosis resulting in a stroke. Recent research at the University of Antwerp (UA) also shows a linear link between Ox-LDL and Lp-PLA2.

Extensive clinical research at the Linus Pauling Prevention Centre in Ghent has shown unequivocally that the three cardiovascular risk factors mentioned above (LDL-3, Ox-LDL and Lp-PLA2) can be favourably affected by high daily doses of olive polyphenols. Patients were advised to increase their daily consumption of cold-pressed olive oil and to switch actively to the daily intake of a therapeutic olive oil from olive trees planted in a rocky desert located at the foothills of the Atlas Mountains (**EI Borouj**, Morocco). These olive trees are subject to severe climatic stress (significant variations in night / day temperatures and lack of water). To survive, the olive trees (their leaves and fruits), produce far more essential oils and polyphenols such as the aforementioned hydroxytyrosol -- up to a factor 30 times higher. The slightly more bitter taste notwithstanding, patients get used to it easily and manage to consume one to two extra tablespoons daily with their meal.

This special olive oil from the Elbrouj region (Morocco) is moreover available in capsules and contains up to 20 mg of standardized hydroxytyrosol, enhanced with polyphenols from olives, from the leaf and the young shoots of the olive trees.

High-risk patients are prescribed **2 to 3 capsules 3 times per day** during meals. We were able to demonstrate that **Ox-LDL then decreased by an average of 27% after an 8-week treatment.**

We can conclude that it is now possible to improve the cardiovascular risk profile drastically through the extra ingestion of hydroxytyrosol, and consequently to limit or to avoid vascular incidents.

It is therefore understandable that the European Food Safety Authority (EFSA) has approved the claim on the beneficial effects of hydroxytyrosol on oxidized cholesterol.

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