

FATTY ACID STATUS: DETERMINATION OF THE PRO- AND ANTI-INFLAMMATORY STATUS BY DIFFERENTIATION OF INDICATIVE FATTY ACIDS

ANALYSIS AND IMPORTANCE OF THE FATTY ACID STATUS

Fatty acids are main constituents of dietary and body fats. Fatty acids that do not have a double bond are called saturated fatty acids. By contrast, unsaturated fatty acids contain one or several double bonds and are therefore also called mono- or polyunsaturated fatty acids. One should include fats in one's menu since they play an important role for health. However, it is important to choose the right types of fats.

CLASSIFICATION OF FATS AND OILS:

SATURATED FATTY ACIDS

Food of animal origin (e.g. fatty meat, sausages and cold cuts, butter) as well as palm oil and hydrogenated vegetable fat are rich in saturated fatty acids that contribute to the increase in LDL cholesterol and thus increase the risk of arteriosclerosis.

MONOUNSATURATED FATTY ACIDS

The most important sources of monounsaturated fatty acids are olive and rapeseed oil. They help lower the total cholesterol and the harmful LDL cholesterol.

POLYUNSATURATED FATTY ACIDS

A distinction is made between Omega-6 and Omega-3 fatty acids that in part have opposite effects and come from different sources.

Sunflower oil, vegetable margarine and animal products such as meat and milk are rich in *Omega-6 fatty acids*. The quality of omega-3-fatty acids depends from their origin. While vegetable origins, like linseed and rapeseed oil only contain Linolenic acid (ALA), Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are only present in animal origin, mainly fatty cold water fish.

TRANS FATTY ACIDS

Trans fatty acids are created by the chemical process of hardening of fats. They are contained, for example, in potato crisps, chocolate spread, bakery products as well as cooking and frying fat. Trans fatty acids result in an increase in the LDL cholesterol and a decrease in the HDL cholesterol in the blood and may increase the risk of coronary cardiac diseases.

CONCLUSION

An unfavourable fatty acid status promote inflammations in our body.

The fatty acids linoleic acid and arachidonic acid are part of the group of Omega-6 fatty acids. Alpha-Linolenic acid (ALA), Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) count among the Omega-3 fatty acids. The ratio of 1:5 is considered to be an ideal ratio of Omega-3 and Omega-6 fatty acids. In many cases, however, today's eating habits result in a ratio of 1:10 to 1:50! The effects of this imbalance include in particular the production of inflammation-promoting messengers in our body, the vasoconstrictive and hypertensive effect of arachidonic acid and the increase in the risk of thrombosis.

The immediate consequences may also be diseases such as rheumatism, asthma, atopic dermatitis, cardiovascular diseases or diabetes mellitus.

ANALYSIS OF THE FATTY ACID STATUS

We can measure the fatty acid status at the InVitaLab laboratory. This tests measures the individual Omega-3 and Omega-6 fatty acids in the blood and their ratios.

ADVANTAGES

- Thus, it provides an indication as to whether the patient takes in too many Omega-6 fatty acids and as to his or her risk of inflammation.
- In addition, the test can also be used to determine the individual requirement of Omega-3 fatty acids. and guide the change of diet.
- It is also suitable as follow up to measure the effectiveness of the therapy.

MATERIAL

Serum, fasting (12hours)

A LABORATORY SERVICE OF:



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