Fatty acids in virgin olive oil and fish help prevent acute pancreatitis

Scientists at the University of Granada have shown that oleic acid and hydroxytyrosol, abundant in virgin olive oil, and n-3 polyunsaturated fatty acids, present in fish fat, also soften the symptoms of this disease. They have analyzed different ingredients of the Mediterranean diet and what is their role, preventing or attenuating cell damage

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Oleic acid and hydroxytyrosol, abundant in virgin olive oil, and n-3 polyunsaturated fatty acids, present in fish fat, act on the cellular mechanisms involved in the development of acute pancreatitis, a disease with oxidative-inflammatory etiology. Therefore, they can be considered as potential functional ingredients in relation to the prevention or attenuation of the severity of this pathology.

This is clear from a research carried out by researchers from the Department of Physiology of the University of Granada, in which they have analyzed different ingredients of the Mediterranean diet and what their role is, preventing or attenuating cell damage.

EXPERIMENTAL *IN VITRO* MODEL

Scientists have developed an experimental in vitro model that allows to know the influence of the change in the fatty acid profile of the membrane that occurs in vivo through changes in the usual intake of the type of fat in the diet, demonstrating how this change of membrane would affect the response of the cell after causing oxidative-inflammatory damage with cerulein (acute pancreatitis).

This is the first study to examine how fatty acids and antioxidants affect the cellular mechanisms of the local inflammatory process in the pancreas. The scientists of the UGR have examined this aspect from a preventive point of view, that is, through an experimental model carried out in mice in which cell damage is induced a posteriori after the previous treatment with the nutritional components.

The main author of this work, María Belén López Millán, points out that "there is more and more evidence that at the origin of chronic diseases common oxidative-inflammatory mechanisms appear that underlie the initiation and development of these diseases. It is also known that the diet has an important role acting through its components (nutrients and bioactive compounds) on these processes, avoiding or reducing the pathological incidence of these damages due to their antioxidant (phenolic compounds) and anti-inflammatory (omega 3 fatty acids) effects".

"The Mediterranean diet has recently been declared Intangible Heritage of Humanity by UNESCO," says the UGR researcher, and it is important to give a scientific response to its benefits by establishing the molecular basis of its impact on health.

Part of the results of this work have been published in the journal Proceedings of the Nutrition Society.

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