Virgin olive oil, fish fatty acids help prevent acute pancreatitis

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Scientists at the University of Granada have shown that oleic acid and hydroxytyrosol -present in a particularly high concentration in virgin olive oil- and n-3 polyunsaturated fatty acids -found in fish- relieve the symptoms of pancreatitis.

The researchers evaluated the role of Mediterranean diet ingredients in the prevention and mitigation of cell damage.

Oleic acid and hydroxytyrosol –present in a particularly high concentration in virgin olive oil– and n-3 polyunsaturated fatty acids –found in fish– affect the cellular mechanisms involved in the development of acute pancreatitis, a disease of oxidative-inflammatory etiology. Therefore, oleic acid and hydroxytyrosol can be considered potential functional ingredients, as they may prevent or mitigate this disease.

Such was the conclusion drawn in a study conducted by a research group at the University of Granada Physiology Department, where the researchers examined the role of the Mediterranean diet ingredients in the prevention and mitigation of cell damage.

An In Vitro Experimental Model

These scientists developed an in vitro experimental model that allows scientist to evaluate how changes in the membrane fatty acid

composition in vivo –caused by a change in the type of fat ingested– affect the ability of cells to respond to induced oxidative-inflammatory damage with cerulein (acute pancreatitis).

This is the first study to examine how fatty acids and antioxidants affect the cellular mechanisms that respond to local inflammation in the pancreas. The University of Granada scientists have evaluated the role of antioxidants from a preventive approach, that is, by using an experimental model in mice in which cell damage is induced after pretreatment with these nutritional components.

The author of this study, María Belén López Millán affirms that "there is increasing evidence that there are oxidative-inflammatory processes involved in the origin of chronic diseases and that diet plays an important role in such processes. The antioxidant (phenolic compounds) and antiinflammatory (omega-3 fatty acids) effects of diet components (nutrients and bioactive compounds) prevent/mitigate the pathological incidence of oxidative-inflammatory processes".

The author reminds us that the Mediterranean diet has been recognized by the UNESCO as Intangible Cultural Heritage "and it is important to provide scientific evidence that explains its beneficial effects on health".

Provided by University of Granada