

# PRESS RELEASE

## New tool designed to predict the risk of ischemic stroke from blood fats

- *Having a higher proportion of fatty acids in the blood from a healthy diet reduces the risk of suffering from this type of stroke by 14%.*
- *The researchers have established an index that measures more reliably than other systems used the quality of fats in the diet of the studied individuals. The work is published in the European Stroke Journal.*
- *Blood fat levels can be calculated from a simple blood test. This opens the door to its application in clinical practice.*

**Barcelona, December 12th, 2025** – The importance of a **balanced and healthy diet** to prevent cardiovascular diseases, such as heart attacks or ischemic stroke, is well known. But now, a study led by researchers from the Hospital del Mar Research Institute and the Catalan Institute of Oncology-ICO l'Hospitalet, with contributions from researchers from the Obesity and Nutrition Physiopathology areas (CIBEROBN) and Epidemiology and Public Health (CIBERESP) of CIBER, have developed **a tool to quantify the quality of fats in the diet, seeking to determine if it predicts the risk of ischemic stroke**. The results are published in the *European Stroke Journal*. The study was funded by **La Marató de 3Cat 2016**, focused on stroke and traumatic spinal and brain injuries.

The researchers analyzed the presence of fatty acids in the blood to create an index that helps uncover the quality of the diet's fat-related elements. For many years, researchers had to rely on data provided by participants in studies, which could be subject to error. **"Beyond looking at individual relationships of fatty acids from a specific food, we combine them to create an index that captures the overall picture. The next step was to investigate whether this was associated with the risk of ischemic stroke, the most common type of stroke,"** explains Dr. Iolanda Lázaro, researcher at the Cardiovascular Risk and Nutrition Research Group of the Hospital del Mar Research Institute and CIBEROBN.

### Nine types of fats

To do this, **nine types of fats present in the blood were selected based on the diet**. Six are related to a healthy diet and come from the intake of nuts, seed oils, blue fish, and dairy. Three others are associated with ultraprocessed foods, sugars, and alcohol consumption, which contribute excessive energy to the body and have no positive effects.

Data from the **EPIC cohort** were used to determine the impact of these fats on the risk of ischemic stroke. From three cohorts within the project (Granada, Navarra, and Murcia), 438 people who had suffered an ischemic stroke over the years were selected and compared with 438 participants with similar characteristics who had not experienced it. The result, after analyzing the blood samples, is clear. Those with a **higher score on the blood fat index**, indicating a better diet, had a **14% lower risk** of suffering from this type of stroke.

To validate the index, a second cohort with a different population base was used. In this case, the Framingham Offspring Study cohort from the United States. Of the more than 2,800 participants, 121 had suffered a stroke, and it was confirmed that the new tool is also valid for other types of populations. In this case, the risk for people with a better diet was 17% lower.

Dr. Lázaro concludes that **"the lower the presence of negative fats and the higher the presence of positive fats from a balanced diet, the lower the risk of ischemic stroke."** She adds that with this new index, **"a blood test can determine if someone is truly eating well, at least in terms of certain aspects of the diet."**

In fact, translating the results into clinical practice could be relatively easy, as the determination of these fats in blood can be done with a single drop of blood. Dr. Aleix Sala Vila, also a researcher at the Cardiovascular Risk and Nutrition Research Group of the Hospital del Mar Research Institute and CIBEROBN, points out that **"we understand this could be a tool to assess the state at a given moment and what changes could be made to reduce the risk of cardiovascular disease, and specifically ischemic stroke."**

#### Reference article

Lázaro I, Luján-Barroso L, Soldevila-Domenech N, Amor AJ, Ortega E, Ros E, Sánchez MJ, Rodríguez-Barranco M, Chirlaque MD, Huerta JM, Guevara M, Moreno-Iribas C, Bonet C, Schröder H, Fitó M, Tintle NL, Ryder N, Harris WS, Agudo A, Sala-Vila A. Development of a blood-based lipidomic fat quality score for the risk of ischemic stroke. Eur Stroke J. 2025 Sep 3;23969873251367250. doi: 10.1177/23969873251367250. Epub ahead of print. PMID: 40899774; PMCID: PMC12408540.

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