Lean non-alcoholics too get fatty liver

Research at NTU may lead to better treatment of the disease and its complications for them

Audit Ton

Fatty liver disease and its complications can be a problem for people of all ages, but some lean people with high levels of triglycerides may develop this condition.

Non-alcoholic fatty liver disease predisposes patients to more severe diseases, such as liver cancer or liver cirrhosis, which refers to the hardening and thickening of the liver due to fibrosis, making it much harder for the liver to process its normal function.

To treat it, doctors usually recommend that patients make lifestyle changes, such as getting enough exercise, losing weight and stopping to eat a diet which restricts overall carbohydrate intake, so as to reduce the lipid (fat) levels in the blood.

"Medications are not usually the first-line treatment for fatty liver disease," said Audrey Tan, general surgeon at Gleneagles Hospital Singapore.

But new research from Nanyang Technological University's (NTU) Lee Kong Chian School of Medicine may pave the way for better treatment of fatty liver disease.

"The research, led by Professor Dan Yock Young, senior consultant at the National University Hospital's division of gastroenterology and hepatology, may pave the way for better treatment for non-alcoholic fatty liver disease," he said.

Associate Professor Dan Yock Young, senior consultant at the National University Hospital's division of gastroenterology and hepatology, said the precise relationship between non-alcoholic fatty liver disease (NAFLD) is still not quite clear despite advances in this field of metabolic disease.

But Prof Wahli's paper had shed light on how PPAR-alpha is an integral player in defective lipid processing in the liver.

"This goes some way in unraveling the complexity of how and why fatty liver develops and potentially opens new targets for new drugs," Prof Dan added.

The research led by Prof Wahli is still in its early days. But pharmaceutical firms could conduct further studies to determine if novel drugs could be developed to stimulate the activity of the protein in specific parts of the body.

The NTU team used an animal model to study the role of a specific protein in the liver that promotes the absorption and breakdown of lipids.

"In previous scientific studies, we knew that PPARs were key players in fatty liver disease. But we didn't know what the role of PPAR-alpha in the liver was in the development of fatty liver disease," the research was published in February this year in the science journal Gut.

The findings, besides encouraging, have also contributed to the further development for the protein, which could pave the way for better use of existing medications, like fenofibrate, which stimulates PPAR-alpha activity, Prof Wahli added.

It is now used to treat patients with high levels of triglycerides, a type of fat.

But for patients with non-alcoholic fatty liver disease, PPAR-alpha in the liver can be another way for non-alcoholic fatty liver disease to be treated.

"It gives scientific support for further research into the role of PPAR-alpha as a possible target for novel drugs that may be useful as treatment for non-alcoholic fatty liver disease," the research was published in February this year in the science journal Gut.

NTU scientists have identified a protein in the liver that promotes the absorption and breakdown of lipids. If a drug could be developed to stimulate this protein in the liver, it could be another way for non-alcoholic fatty liver disease to be treated.

The research was published in February this year in the science journal Gut.