

Fish oil-derived medication could prevent diabetes complications

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(PhysOrg.com) -- Regular doses of a licensed medication derived from fish oil could be used to improve nerve damage and prevent the onset of some of the serious complications of diabetes such as amputation, blindness or heart disease.

New research from the University of Southampton and funded by Diabetes UK aims to determine if this is the case.

Keith McCormick, a podiatrist at the University of Southampton, will study 100 people with [insulin resistance](#) and non-alcoholic [fatty liver disease](#) (NAFLD) to determine whether taking high-doses of purified n-3 long chain fatty acids (a medication derived from [fish oil](#) found in Norwegian sardines named OMACOR) can improve the function of nerves and small [blood vessels](#) in feet. People with non-alcoholic fatty liver disease are at increased risk of contracting [type 2 diabetes](#).

The data will also be used to improve our knowledge of the link between nerve function and blood vessel damage in diabetes.

Keith comments: “OMACOR has already proved to be extremely successful in the treatment of high triglycerides (a type of fat) in the blood, but if this trial is successful it will provide evidence that treatment with these purified long chain fatty acids can also serve to improve small nerve and blood vessel function that is very relevant to people with diabetes. It is hoped this knowledge could then help to improve the lives of people with diabetes who are at risk of nerve and blood vessel

damage.”

Diabetics are susceptible to develop serious health complications, such as blindness, kidney disease and [amputation](#), as a result of neuropathy where the nerves and small blood vessels become damaged. Sensory neuropathy is the most common form and mainly affects the nerves in the feet and legs. The loss of sensation in these limbs can make people with diabetes vulnerable to foot wounds and these complications can develop even before diabetes is diagnosed.

Keith’s research is part of wider study called the ‘Wessex Evaluation of fatty Liver and Cardiovascular markers in NAFLD with OMacor therapy trial’ (or WELCOME study), sponsored by the National Institute for Health Research (NIHR).

Professor Christopher Byrne, an endocrinologist at the University, is leading this trial, which is being conducted within the newly built NIHR Southampton Biomedical Research Unit in Nutrition, Lifestyle, Diet (and Obesity) at Southampton General Hospital.

Keith McCormick’s research is being supervised by Professor Byrne, Professor Geraldine Clough (Medicine) and Professor Mike Griffin (the Institute for Sound and Vibration Research).

He has been awarded a three-year Diabetes UK Allied Health Professional Research Training Fellowship to conduct the study.

Dr. Iain Frame, Director of Research at Diabetes UK, adds: “Diabetes is one of the biggest health challenges facing the UK today and approximately 10 per cent of NHS spending, £9 million a year, is spent on diabetes. We know that neuropathy and blood vessel damage are behind many of the complications of diabetes, and ultimately lead to 100 amputations each week in the UK.

“Type 2 diabetes can go undetected for up to ten years, meaning 50 per cent of people already have complications, such as neuropathy, kidney disease, cardiovascular disease and stroke, by the time they’re diagnosed. The research therefore has the potential to identify a readily available treatment to prevent some of the serious complications of diabetes.”

Provided by University of Southampton

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