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A NEW WAY TO PREVENT HEART ATTACK

AUSTRALIAN researchers today announced that an increase in the dietary intake of a nutrient called DHA could significantly reduce the number of deaths from heart attack.

DHA, one of the omega-3 fatty acids, is already known to improve blood fat levels and reduce the build up of plaque in the arteries (atherosclerosis). However, new research presented today at the *Pacific Lipids* conference in Auckland, NZ, shows that DHA from fish oil has a specific and unique role in improving the condition and functioning of the actual heart muscle itself.

Associate Professor Peter McLennan, Director of the Smart Foods Centre at the University of Wollongong, said it's been suspected that DHA plays a special role in the heart, but nobody knew exactly what that role was until now.

"Our experiments show DHA can help prevent the occurrence of sudden heart attack, and also reduce the incidence of death if and when a heart attack does occur," Professor McLennan said.

The Wollongong team has shown that increasing the amount of DHA in the diet will prevent fatal arrhythmias (irregular heart rhythms) during a heart attack. It is the occurrence of these arrhythmias during a heart attack that actually cause death.

This research is the first to show exactly how DHA brings about its effect in the heart muscle to reduce the risk of death from sudden heart attack. The same effects extend to improving the pumping power of a weakened heart.

Solving the DHA puzzle

When Professor McLennan began working on nutrition and heart disease in the 1980s, he and colleagues found that DHA was the main omega-3 fatty acid present in heart cell membranes.

"We thought this might mean DHA plays a special role in the heart, so we began altering dietary DHA levels to see what effect that would have," Professor McLennan said.

His experiments showed that adequate levels of DHA can:

- Make the heart muscle stronger and more powerful
- Stop the fatal arrhythmias that take place during a heart attack, leading to death
- Give the heart muscle a greater ability to adapt and cope with increased stresses and pressures
- Enable the heart to use less oxygen to do its job, to pump more efficiently, and to reduce the average heart rate - providing greater reserve capacity

The following heart conditions that have shown improvements with increased levels of dietary DHA in Professor McLennan's experimental research include:

- Myocardial Infarction (heart muscle damaged by heart attack)
- Heart failure associated with Cardiomyopathy (enlarged heart)
- Heart failure associated with hypertension (high blood pressure)
- Heart failure associated with diabetes

Clinical research

Although Professor McLennan's work has largely been carried out on animal hearts, he said there is a large body of clinical data to back up his findings.

"Results produced by both epidemiological studies and clinical human trials clearly demonstrate the benefits of DHA and other fish oil nutrients in preventing heart disease," Professor McLennan said.

An Italian study supplemented the diets of 11,000 heart attack victims with high DHA fish oil and found the risk of a second sudden heart attack was reduced by a massive 45%. Other US research found as little as one meal of fatty fish (salmon or tuna) a week could halve the risk of dying from heart attack in people who had no known history of heart disease.

"All this shows there is the potential for a different approach – a nutritional approach - to the treatment of patients after a heart attack," Professor McLennan said. "The trouble is, clinicians seem a bit unwilling to believe that something so simple could be so good," he said.

How much DHA?

The level of DHA required to bring about these beneficial effects in Professor McLennan's research is relatively low, but Australians are now eating fewer foods that contain the beneficial omega-3 fatty acids.

Wendy Morgan, Accredited Practising Dietitian and nutritionist, said Australians are reducing their intake of foods that are rich in DHA.

"In recent times our intake of fish, eggs, offal and full cream dairy products has decreased for a variety of reasons," Ms Morgan said. "Because the body can't efficiently manufacture or store omega-3 DHA, we need to ensure we are eating sufficient foods rich in DHA regularly every week," she said.

Oily fish such as tuna are the best natural source of DHA, but there is a growing range of foods available that are enhanced with a DHA ingredient sourced from tuna oil. These products include bread and muffins, smallgoods, infant formulas, orange juice, eggs, and a range of dairy products including yoghurt and a new high DHA milk which will be available for sampling at the NZ conference.

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