

Curcumin and Indian Gooseberry to Feature in New Alzheimer's trials

By Elaine Watson, NUTRA Ingredients

Scientists at the forefront of research into Alzheimer's disease are about to embark on two human studies examining the role curcumin and Indian gooseberry could play in tackling beta amyloid, the neural plaque associated with its progression.

Speaking at a webinar on Alzheimer's **organized by EuroPharma president Terry Lemerond**, Professor Ralph Martins said the first trial would examine the effect of a bioavailable form of **curcumin** – the bioactive component in turmeric – on amyloid accumulation in the human brain.

The second trial will look at whether **Indian gooseberry** – a natural extract shown to raise 'good' HDL cholesterol – could reduce beta amyloid levels in the blood, he said.

Professor Martins – who was part of the team that discovered the role of beta amyloid in the progression of Alzheimer's – is director of the Centre of Excellence for Alzheimer's Disease Research and Care at Edith Cowan University in Perth, Australia.

Several nutrients including curcumin, resveratrol, **pomegranate** juice, **DHA**, lipoic acid and EGCG warranted further study in relation to Alzheimer's with nutritional interventions probably combining several of these in future, he predicted.

"Curcumin is going to be one of the most important, but my guess would be that we would need a couple of other agents at least to have a real impact."

Curcumin: 'This has never been done before'

Results of the 12-month curcumin trial – a randomized, double-blinded study involving 150 participants – will be unveiled late next year, he said.

Participants will receive 500mg of BCM 95* – a bioavailable form of curcumin – three times daily or a placebo.

He added: *"This has never been done before. It has been done in animals but not in humans. We are evaluating the efficacy of a bioavailable form of curcumin on preventing or slowing cognitive decline in patients with very mild cognitive impairment and the question we are asking is will curcumin reduce beta amyloid build up in the brain."*

"What's very exciting about curcumin is that not only is it acting against beta amyloid, but it is also a very powerful antioxidant. When mice with advanced beta amyloid accumulation in the brain are given curcumin, you see a marked reduction in their plaque load and beta amyloid levels."

Indian gooseberry: 'We think that could be promising'

A second, six-month, randomized double-blinded study, will look at the effect of Amla or Indian gooseberry (*Emblica officinalis*) extract on raising HDL-cholesterol and decreasing plasma beta amyloid in subjective memory complainers with low HDL cholesterol, he said.

"Amla can raise HDL cholesterol, but it has also been associated with clearing amyloid out, so that could be promising. What's good for your heart is good for your brain."

Pathology of Alzheimer's disease

He added: *"Beta amyloid is to Alzheimer's what cholesterol is to heart disease. Every one of us makes it. But when its levels are highly elevated in the brain, we get Alzheimer's."*

"We are now coming to appreciate that at low doses this protein probably plays an important role as an antioxidant. But if you get too much, it kills neurons. And neurons – how they work and connect to each other – make us who we are, so when they are damaged, we lose ourselves."

Scientists have alternately tried to inhibit the enzymes that generate or release beta amyloid, or instead block its action, he said.

"Another factor is that most people that develop Alzheimer's have very poor clearance of beta amyloid so if you look at agents that facilitate this clearance, you would be able to pull the amyloid out of the brain."

Prevention, not cure

While drugs blocking the production of beta amyloid had not had the clinical effects that many people had hoped, they had probably been administered too late, he said.

"While these drugs are very important in stopping the primary culprit, they are getting in too late, the brain is either more severely damaged or there are other agents that have now taken over from beta amyloid and are causing the damage.

"For example, beta amyloid can generate hydrogen peroxide and that causes oxidative stress, and we all recognize that oxidative stress is a major feature of Alzheimer's and that in turn damages the neurons, causes them to die, leading to memory impairment.

"So my key message is that it may be prudent also to target the effects of beta amyloid, and this is where antioxidants may play a very important role."

Interventions must begin earlier

Ultimately, he said, interventions had to start earlier. *"The future is prevention. In the last 15 years we have been looking at treatment trials and unfortunately most have failed because we were getting in too late when the brain was severely damaged.*

"We can diagnose Alzheimer's several years before the onset of symptoms by taking pictures of the brain now, but in the future it will be with a simple blood test. You should at the age of 35 or 40 be able to go to your doctor and get a test."