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Carnitine risks outweigh benefits: expert

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AN AUSTRALIAN study shows carnitine supplements may relieve pain in patients with intermittent claudication but their use is precluded by a possible link with atherosclerosis, an expert says.

A systematic review conducted by Adelaide researchers showed that in 13 of 17 studies in patients with intermittent claudication, carnitine supplements significantly improved pain-free walking distance by between 23m and 157m when compared with pre-supplementation or placebo.

Similarly, maximal walking distance was improved by between 9m and 135m with carnitine supplements.

Professor Garry Jennings, director of the Baker IDI Heart and Diabetes Institute, said the effects of carnitine on intermittent claudication were likely to be short term.

"They are probably related to the effects of carnitine on muscle and it could well be doing some good things as well as some bad things, of which the muscle effects allow people to walk a little further."

But he said the benefit of carnitine in intermittent claudication had to be balanced with possible negative effects on atherosclerosis.

Another study published last week showed that metabolism by microbiota of dietary L-carnitine produces proatherogenic trimethylamine-N-oxide (TMAO) and accelerates atherosclerosis in mice (*MO* 8 April).

The same study demonstrated in around 2500 people that high plasma L-carnitine and TMAO levels doubled the risk of cardiovascular events.

"It's an experimental study and there's a lot to learn from it but it only points to one mechanism for carnitine in which it might in this case cause damage. There might be other things it does that are good for you," he said.

Professor Jennings said much of the focus of carnitine atherosclerotic risk was on red meat but the main risk was likely to be with carnitine supplements, where people took high doses for long periods of time.

Capsules of L-carnitine are advertised as a fat-burning slimming aid and powerful muscle builder.

"I'm not convinced enough about the value and efficacy of carnitine in its various purposes that people take it for, to think that it's worth the possibility that it might cause atherosclerosis or coronary disease," Professor Jennings said.