Changes in Vitamin C-inhibition and Platelet biomarkers in patients with Type 2 diabetes and neuropathy

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Danish Medical College of Copenhagen (DMC) initiated a clinical trial of stroke risk in patients with Type 2 diabetes at the end of 2009. This randomized study aims to find out how a pharmacological and genetic biomarker for subtypes of stroke. Diabetes and stroke are chronic diseases. According to the study, due to years of pre-existing chronic diseases, including Type 2 diabetes, patients develop chronic neuropathy.

This neuropathy includes an increasing number of painful, chronic, severe, and sometimes debilitating neuropathic conditions such as neuropathy in diabetic peripheral nerve and neuropathy in diabetic leg. This study addresses the role that chronic neuropathy in diabetes may play in the pathogenesis of pain in people with diabetes.

From April to December 2011 approximately 385 patients were enrolled in the trial, 18 to age 60 years old. At initial enrollment a control group of over 500 patients was randomized in a five-year treatment phase. Patients enrolled in the group giving vitamin C throughout the treatment phase will continue to receive the vitamin C medicine with no changes in dosage or timeframe; participants in the group receiving beta-blockers will receive these medicines with no changes in dose or interval during the first three years and then follow-up in three years.

Interviews, spinal tap examinations, brain imaging, and blood and urine tests were taken at various time points during the treatment phase. When measured at five year marks, participants with an average age of 58.3 years and disease-free encephalopathy in the first year got mildly better with less neuropathy, but still many patients did not get an improvement at all. In addition, there was no significant difference between the vitamin C and beta-blocker groups at the five-year mark.

Despite the early signs of slowing neuropathy progression, the findings indicate that neuropathy in the trial showed no significant difference between the groups. There was a slight decrease in the increase in beta-blocker use.

However, researchers point out that many additional measurements are yet to be taken, including test results for inflammation, platelet reactivity, brain MRI scans, or additional studies in patients who develop neuropathy at the same time as diabetes.

As discussed in another article in Diabetes Care, another year of subgroup analysis will be completed and the study team is currently conducting a possible subgroup analysis for the dry matter changes in the brain before the onset of neuropathy, the threshold for a stroke outcome, and other potential clinical trials of Vitamin C and Beta-Blockers.

â€œA hope, but cautious prediction that a decrease in blood pressure and loss of water in the spinal fluid will be seen if administered under lipid-lowering therapy in relation to mild to moderate diabetic neuropathy. Non-motor neuropathy also has a potential for therapeutic benefit, as it might affect the management of sensory disorders in the central nervous system.â€

Study: Changes in Vitamin C-inhibition and Platelet biomarkers in patients with Type 2 diabetes and neuropathy

A Close Up Of A Black And White Cat Wearing A Tie