

ABSTRACT – MCHWS 2014**Neuroprotective Effects of Palm vitamin E Tocotrienols**

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Abstract

Cell and animal studies have convincingly shown the tocotrienols to be neuro protective. However, many compounds have been proven neuro protective in pre-clinical studies but none succeeded in human trials. Such failures can be attributed to the use of a wrong study model, example acute ischemic stroke. Stroke has a short treatment time window of about 4.5 hours and hence the difficulty of giving the compound within this time period. Furthermore, disruption of blood flow to the affected areas will limit the administered agent from reaching the target tissues. Therefore, the compound should best be given before the stroke event, like in the animal studies. Considering the above, the present study was conducted to investigate the neuro protective effects of palm vitamin E tocotrienols using human volunteers with white matter lesions (WMLs). WMLs are associated with ischemic small blood vessel disease of the brain leading to bundles of nerve fibers degenerating. The lesions are self-progressive and can be quantified using magnetic resonance imaging (MRI). In the present study, 121 volunteers with WMLs were randomized 200mg palm tocotrienols twice daily or placebo and imaged at baseline, after 1 year and 2 years of supplementation. Changes in the volume of WMLs from baseline were then determined. Results obtained showed that the mean WML volume of the treated group remained essentially unchanged after 2 years, whereas the placebo group showed a mark progression. The change in the mean WML volume of the 2 groups was significantly different ($p < 0.05$) after 2 years. Hence, the present study provided clinical evidence that palm vitamin E tocotrienols are neuro protective and may help to minimize tissue injury of the brain during a stroke event, thus making a difference in the stroke outcome when taken as a supplement.

Key Words

Neuro protective Effects; Tocotrienols