The role of vitamin E in the management of gliomas: A review of vitamin E isomers, their role in adjunctive cancer treatments and implementation in case studies

Whilst the findings of epidemiological meta-analyses for an inverse relationship between dietary intake of vitamin E and risk of cancer have been inconsistent at best, vitamin E continues to attract interest due to its ability to protect cells from free radical damage and induce apoptotic cell death in various cell types. Earlier studies focused solely on the apoptotic action of alpha-tocopherol with some authors even concluding that other vitamin E analogues have no influence on cell survival or the ability to induce apoptosis. However, we have seen an emergence of research into the cytotoxic and apoptotic activities of tocotrienols, particularly gamma and delta. Vitamin E exists naturally as a combination of all eight isomers. Further exploration of research reveals that supplementation with single isomers may impact the distribution of other vitamin E isomers and have the ability to cause detrimental outcomes such as reduced bone health and increased cardiovascular risk factors. For effective use of vitamin E in clinical cases, a deeper understanding of the vitamin E isomers and the dynamic balance between them is essential. Case studies in the management of glioma will be used as a guide to highlight the use of implementation science; to promote the integration of research findings and evidence into healthcare clinical practice. There will be a strong practice based focus on the role of vitamin E in enhancing cancer treatment outcomes, reducing toxicity of chemotherapy drugs to healthy cells and its role in attenuating oxidative stress in maintenance of health. Practical interventions to ensure safe administration of vitamin E and major flaws with current practices will be addressed.

Biography

Keonie Moore has completed her studies at the renowned School for Complementary and Natural Medicine, Southern Cross University, Australia and has become a highly sought-after presenter for her experience in scientific implementation. She is the Director of ReMed Natural Medicine Clinic, a multi-modality clinic that exemplifies scientific implementation in the Australian Health sector, where she is involved in clinical mentoring to enhance additional integrative clinics and practitioners in the assimilation of research findings and evidence into clinical practice. The highlights of her speaking engagements include presenting on Metabolic Syndrome to the Integrative Medicine Education and Research Group, Alfred Hospital and published 'Metabolic syndrome: A case for collaborative care' in the reputable journal, Advances in Integrative Medicine and keynote speaker at the 2nd International Conference on Endocrinology, Chicago IL.  

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