

## **The 21st century form of vitamin E--tocotrienol.**

*Bardhan J1, Chakraborty R, Raychaudhuri U.*

### **Abstract**

Vitamin E family constitutes of tocopherol and tocotrienol. Each form has several isomers: alpha, beta, gamma, delta, desmo and didesmo. Although tocopherol is known much earlier, tocotrienol has been discovered more recently. Tocotrienol has higher antioxidant potential than tocopherol. Research shows that tocotrienol can inhibit the induced oxidative damage to lipids and proteins. Cholesterol biosynthesis pathway requires HMG Co A reductase. Tocotrienol degrades HMG Co A reductase protein and in turn lowers cholesterol synthesis. Tocotrienol can reverse ischemia-reperfusion which mediates cardiac dysfunction and induces c-Src protein expression. Tocotrienol prevents oxytosis and offers protection against Alzheimer's disease, Parkinson's disease, Huntington's disease. Tocotrienol exerts anticancer property through cell cycle arrest, induction of apoptosis, inhibition of angiogenesis; antitumor activity. Tocotrienol also possesses anti-inflammatory, antidiabetic, antiadipogenic and antiatherogenic effect.