Closing Remarks:

Natural chemopreventive agents: mechanistic perspectives

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Cancer preventive effects of bioactive phytochemicals have been extensively investigated and well-documented. The most well known botanicals with chemopreventive potential include epigallocatechin gallate (green tea), sulforaphane (broccoli), isoflavones (soy), resveratrol (grapes), lycopene (tomato), curcumin (turmeric), allyl sulfides (garlic), etc. As oxidative stress and inflammatory tissue injury are two major culprits implicated in pathophysiology of a wide array of human malignancies, antioxidant and anti-inflammatory phytochemicals have been considered to be promising chemopreventive agents. Nuclear transcription factor erythroid 2 p45 (NF-E2)-related factor 2 (Nrf2) and nuclear factor kappa B (NF-κB) play a crucial role in regulating induction of expression of antioxidant and pro-inflammatory genes, respectively. Various antioxidants and anti-inflammatory substances derived from dietary and medicinal plants have been found to modulate these two ubiquitous redox-sensitive transcription factors, thereby potentiating cellular antioxidant or detoxification capacity and/or protecting against inflammatory injuries.

References: