



## Skin Cancer & its Treatment Using Natural Therapeutics

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**ABSTRACT:** Skin cancer is becoming very common worldwide; most incidences are being reported from United States and Europe which have been affected by lifestyle changes over the past century. Skin cancer can be of melanoma and non-melanoma types (inclusive of basal and squamous cell carcinomas). The pineal hormone 'melatonin' that plays a role in circadian regulation and provides protection from UV skin damage, is also one of the agents playing a role in skin cancer. While surgical removal is one way of treatment of cancers, in recent times novel non-invasive protocols have been gaining importance. These consist of usage of botanical agents possessing anti-inflammatory, anti-oxidation and immunomodulatory properties and are believed to suppress or reverse the process of carcinogenesis. Hypericin extracted from *Hypericum perforatum* has shown cytotoxic and antiproliferative properties against cancer cells. Ingenol mebutate from *Euphorbia* causes mitochondrial swelling of dysplastic keratinocytes and apoptosis by necrosis. Resveratrol, the major component found in grapes, peanuts and berries, proanthocyanidins from grape seeds, and epigallocatechin-3-gallate (EGCG) from green tea have also shown efficacy. These may be used as dietary supplements in a controlled way and may represent the future modality of the treatment. The mechanism of action studied *in-vitro* and *in-vivo* as developed in animal models shows that these botanicals induce apoptosis, arrest the cell cycle at different stages and thereby control proliferation of cancer cells. Advantages of using plants and plant-based ingredients can provide a broad spectrum of molecules for cancer therapy with multidimensional effects and targets. Though there is limited preclinical and clinical data available for use of botanical agents, topical use of some botanicals & phytochemicals in future appears promising. Here, in this review we show the potential of natural products for treating skin cancer. © 2014 iGlobal Research and Publishing Foundation. All rights reserved.

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