

Cancer growth control mechanism of natural products

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ABSTRACT

Cancer is the term referred to abnormal and uncontrollable growth of cells which has also the capacity to invade and metastasize. It is not a single disease but a group of different and distinctive diseases evolving out of any tissue of the body and may have different form based on the area it arises. It is one of the leading causes of death worldwide accounting to 8.8 million deaths in 2015. However, current treatments used for cancer such as radiation, anti-hormonal therapy, surgery and chemotherapy using synthetic drugs, have been reported to produce various side effects. Therefore, it is crucial to reveal beneficial effects of natural compounds with lesser side effects on normal cells and potential anticancer activity. The World Health Organization has estimated that more than 80% of the world's population in developing countries depends primarily on herbal medicine for basic healthcare needs. Natural products or natural product-derived drugs comprise nearly 28% of all the new chemical entities launched into the market in the last 20 years. Medicinal plant-based drugs have the added advantage of being simple, effective, and offering a broad spectrum of activity with well-documented prophylactic or curative actions. Medicinal plant products have also proved useful in minimizing the adverse side effects of various chemotherapeutic agents. Cancer cells which have the ability to proliferate abundantly can be inhibited by few compounds found in the food we eat daily. In addition there are few plants and marine species which possess anticancer activity naturally. The compounds which are either naturally occurring medicinal plants, microbial agents, tea, decoctions, mushrooms or fungi, spices cause interaction in the activity of inhibiting the cancer cells. We highlighted the effect of natural compounds on cancer cell proliferation and their mechanism of action.

