

Cancer Chemoprevention

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Despite much significant advancement have been achieved in the cancer sciences, cancer is still a leading cause of deaths around the world. The cancers of lung and bronchus, and liver for male, and breast and lung, and bronchus for female are estimated as the major reason for estimated deaths worldwide [1]. Cancer can be induced by several endogenous and environmental causes as well as an adoption of cancer associated lifestyle choices including smoking, physical inactivity and “westernized” diets [2]. For instances, breast cell can thorough intrinsic estrogen carcinogenesis [3] and environmental endocrine disruptors as carcinogens [4]. While infection with hepatitis virus, coupled with dietary exposure to the fungal toxin aflatoxin, increases the risk of liver cancer [5].

Tumor developments undergoes multiple-steps progressions [6]. Interestingly, despite the heterogeneous nature of tumors, the histopathology and gene-expression profiles of tumors arising in patients often remain relatively stable during progression from localized to metastatic and even end-stage disease [6]. Thus the use of natural, synthetic, or biologic chemical agents to reverse, suppress, or prevent carcinogenic progression to invasive cancer, namely chemoprevention is very important for current immerse cancer burdens.

Up to now, number of compounds are reported to interfere with a specific stage of carcinogenic process. Recently, exemestane was found to reduce the risk of invasive breast cancer in high risk postmenopausal women with little adverse effects [7]. More recent trials support the hope that daily aspirin, a 100-years-old drug, can ward off a panoply of cancers [8]. Interestingly, many dietary phytochemicals also showed potent chemoprevention role for cancer [9]. For example, blueberry phytochemicals can Inhibit Growth and Metastatic Potential of MDA-MB-231 Breast Cancer Cells through

Modulation of the Phosphatidylinositol 3-Kinase Pathway [10]. Therefore, chemoprevention especially by edible phytochemicals has been considered to be an inexpensive, readily applicable, acceptable and accessible approach to cancer control and management [9].

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