



Conference Abstract

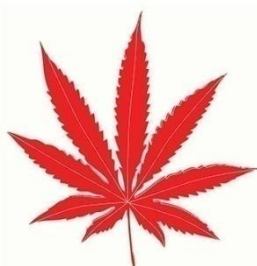
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ANTI-CARCINOGENIC POSSESSIONS OF CITRUS PEEL EXTRACT AND FLAVONOIDS

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ABSTRACT

Researchers and scientists synthesized numerous drugs and medications to treat cancer. These synthesized drugs related with many side reactions could deteriorate the quality of patient's life. Recently, various functional foods containing effective molecular components against cancer has gained much popularity as no side effects are associated with them and these are natural based product could be easily consumed and can left a long-lasting health impression on the life of patients. Citrus peel enriched with flavonoids, polymethoxylated flavones and numerous bioactive components demonstrated anti-carcinogenic, anti-tumour, anti-proliferative and anti-inflammatory activities on skin cancer, gastric cancer, prostate cancer, oesophageal tumorigenesis, colon carcinogenesis, colorectal carcinoma cell, human squamous cell carcinoma and against human cancer cell lines. A novel functional natural product named Gold Lotion (GL) was formulated from citrus peel extract to inhibit the inflammation-associated tumorigenesis. Gold Lotion (GL) demonstrated a clear and promising strategy by *in vivo* analysis and result showed beneficial aspects to treat prostate cancer, skin cancer and colon cancer in mice. Six different orange peel extracts (OPEs) were prepared containing bioactive potential of polymethoxyflavones (PMFs) and hydroxylated PMFs (OH-PMFs). *In vitro* study of citrus flavonoids effects on the growth of a human squamous cell carcinoma cell line (HTB43) demonstrated the health benefit and anti-cancer effects by examination of four plant flavonoids (taxifolin, nobiletin, quercetin and tangeretin). Moreover, quercetin chalcone (QC) and pH-modified citrus pectin (MCP) are the modified substances of quercetin (a flavonoid) and citrus pectin (a polysaccharide found in the cell wall of plants). Earlier studies indicated that many antitumor properties due to immune stimulation, free radical scavenging, alteration of the mitotic cycle in tumor cells; gene expression modification, anti-angiogenesis activity and apoptosis induction are exhibited by quercetin. Prostate cancer and melanoma metastases can also be inhibited by modified citrus pectin (MCP).

Keywords: Citrus peel, polymethoxylated flavonoids, OPEs, GL, Anti-cancer

