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LETTER TO THE EDITOR

Galangin and its emerging anti-neoplastic effects

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To the Editor: I read with great interest the recent article by Zhang et al. (2012a). Interestingly recent data suggest that galangin may influence carcinogenesis in a number of systemic tumors besides melanomas.

For instance, galangin activates the caspase 8/t-Bid mitochondrial pathway in hepatocellular carcinomas (Zhang et al. 2012b). Simultaneously there is an increase in Bid disintegration resulting in increased tBid. Simultaneously, galangin administration results in increased release of cytochrome-*c* into the cytoplasm by virtue of enhanced translocation of Bax to mitochondria in the neoplastic cells (Zhang et al. 2010). As a result, galangin results in accentuated apoptosis in these tumors. This enhanced galangin mediated apoptosis is inhibited by up regulation of Bcl-2.

Similarly, galangin modulates glutathione S-transferase P function. As a consequence, it enhances apoptosis in gastric malignancies. Simultaneously, it also affects ubiquitin carboxy-terminal hydrolase isozyme function thus further accentuating apoptosis in gastric neoplastic cells (Kim et al. 2012). Modulation of the above enzymes results in accentuated expression of JNK as well as ERK 1/2. Simultaneously, there is an increase in the cleavage of poly (ADP-ribose) polymerase.

Similar, when administered to imatinib sensitive leukemias, galangin increases the sensitivities of these hematological malignancies. It also helps overcome imatinib resistance in imatinib resistant Bcr-Abl expressing leukemias (Tolomeo et al. 2008). A decline in Bcl-2 level is seen following galangin administration. Similarly, a decline in cdk1 and cdk4 levels accompanies galangin administration. As a result of this enhanced sensitivity there is an increase in G0/G1 phase cells. Similarly, tumor growth is attenuated in animal models with Ehrlich ascites carcinoma following the administration of galangin (Jaiswal et al. 2012). The above examples clearly illustrate the significant role of galangin in the need for oncology and further studies in this regard.

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