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The potential use of clausenidin in the treatment of liver cancer

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Liver cancer is a leading cause of death in the world with an increasing burden in Asia and sub-Saharan Africa. The therapeutic options for liver cancers are inadequate and survival after diagnosis is very uncertain. This situation actually creates the need for studies on natural products that can complement and provide suitable alternatives to the current therapeutic measures. In the current study, we used clausenidin isolated from *Clausena excavata* Burm.f. to treat liver cancer (hepG2 cells). The plant is a shrub used in Asian folk medicine in the treatment of cancer but only little is known about its scientific evidence. We evaluated the cytotoxicity of clausenidin as well as its effect on reactive oxygen species production in hepG2 cells. In addition, we studied possible mechanisms through which clausenidin induces cell death in hepG2 cells. Our result reveals that clausenidin induces cytotoxic effects in hepG2 cells in a dose dependent manner with significant increase in the production of reactive oxygen species. Cell death was found to have occurred via apoptotic and non-apoptotic routes as revealed by the results of DNA fragmentation analysis and transmission electron microscopy respectively. The present study lends credence to the use of *Clausena excavata* to treat cancer patients in Asia and demonstrates the potential of clausenidin in the biotherapy of liver cancer.

Biography

Peter M Waziri has completed his MSc in the University of Nottingham in 2013. He is currently a PhD student of Medicinal Chemistry in the University of Putra Malaysia, Malaysia. In the last 2 years, he has focused on the isolation of bioactive components in plants for use in cancer therapy.

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