MINOR FRUITS OF JAMMU SUBTROPICS POSSESS IN VITRO CYTOTOXICITY AGAINST HUMAN CANCER CELLS

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Abstract: The present research work was carried out to examine the in vitro cytotoxic effect of four minor fruits of kandi belt of Jammu region viz., Emblica officinalis (amla), Morinda citrifolia (shehoot), Olea europaea (jaithun), Ziziphus mauritiana (ber) against nine human cancer cell lines from eight different origins such as A-549 (lung), A-498 (renal), HCT-116 (colon), MCF-7 (breast), MDA-MB-435 (melanoma), OVCAR-5 (ovarian), PC-3 (prostate), SF-295 (CNS), T-47D (breast). Methanolic extracts of fruits were used as test material and in vitro cytotoxicity was determined at 100 μg/ml via SRB assay. Results revealed that all the minor fruits (except shehoot) showed in vitro cytotoxic efficacy against one or the other human cancer cell line with growth inhibition range of 70-99%. Maximum growth inhibition against more number of human cancer cell lines was produced by amla followed by ber and jaithun. When evaluated at lower concentrations, ber fruit exhibits significant in vitro cytotoxic potential (79% & 70%) at 50 and 30 μg/ml respectively against lung cancer cell line (A-549). Ber also suppressed 70% proliferation of melanoma cancer cell line (MDA-MB-435) at 50 μg/ml. To conclude, ber possesses certain constituents with cytotoxic properties that will be effective against melanoma and lung cancer cells.

Keywords: Amla, Ber, Cancer Cells, In vitro cytotoxicity, SRB assay

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