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Antiangiogenic Effects of Photoactivated Hypericin in Human Umbilical Endothelial Cells

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Hypericin (HY) is a naturally occuring photosensitizer with antiproliferative effect in normal and malignant cells. However, the antiangiogenic effect of HY was studied only marginally. We therefore investigated the HY-mediated PDT effects on normal human umbilical endothelial cells (HUVECs) as well as in cancer human glioma cell lines. The inhibitory effects of photoactivated HY did not differ in examined cells in cytotoxicity and DNA fragmentation. However, the important difference in sensitivity has been found in migration and metalloproteinases inhibition asssays, performed as cell function tests. The findings were supported by high sensitivity of HUVECs in additional angiogenesis test of tubular formation *in vitro*. It was concluded that inhibition of basic HUVECs angiogenic functions was found in significantly lower (10^{-9} mol/L - non cytotoxic) concentrations. Higher concentrations of HY (10^{-7} mol/L) resulted in direct cytotoxic effects observed in both HUVECs and tumoral cell lines.

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