

Tanshinone IIA on apoptosis via SAPK/JNK signal transduction in pancreatic cancer cells

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This study is to investigate the effect of TSIIA on inducing apoptosis via SAPK/JNK signal transduction in human pancreatic cancer cells. In vitro, MTT assay was used to observe the cytostatic effect in human pancreatic cancer cell line PANC-1 by TSIIA. The apoptosis was assessed in pancreatic cancer cells by immunofluorescence after treatment with TSIIA; apoptosis was determined by Flow cytometry (FCM), p-JNK expression was assayed by Western Blot, and the mRNA expression level of Survivin were detected by Fluorescent Quantitation PCR, compared with the mRNA expression level of Survivin after treatment with blocking agent. In vitro, the growth inhibitory effect was concentration- and time-dependent. After PANC-1 cells were treated with 8, 16, 32mg/L of TSIIA for 48h, typical morphologic changes of apoptosis were observed by fluorescence microscope using Hoechst staining. When treated with 8, 16, 32mg/L of TSIIA for 48h, the cell apoptotic rates were respectively $(8.83 \pm 1.51)\%$, $(12.86 \pm 2.70)\%$ and $(21.24 \pm 2.58)\%$, showing significant difference ($P < 0.01$). After signal transduction pathway of JNK was blocked, the cell apoptotic rates were decreased significantly ($P < 0.01$). Phosphorylation-JNK expression after 1h and the expression was the highest when at 4h. The mRNA expression of the Survivin gene were decreased obviously after treatment with 16mg/L TSIIA for 48h; whereas they were decreased significantly when the transduction pathway was blocked. **TSIIA can induce human pancreatic cancer cells apoptosis. The anti-pancreatic cancer mechanism of TSIIA might involve down-regulation the expression of the Survivin mRNA via SAPK/JNK signal transduction pathway.**

Biography

Peihao Yin, as the vice-director of surgery in Putuo hospital affiliated to Shanghai University of Traditional Chinese Medicine, he has taken in charge of the prevention and treatment of cancer in Integrative Medicine. Also he is the member of Professional Translation Committee on Chinese Medicine and have been undertaking more than 6 prizes on Science and Technology Commission of Shanghai Municipality. He has published more than 20 papers in reputed journals, including 2 papers in SCI.