Ganoderma Spore Oil Induces the Apoptosis of Mammary Adenocarcinoma Cell by Regulating Apoptotic Genes

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Purpose: Breast cancer has become one of the most common diseases among women worldwide. Using TS/A cells (established metastasizing adenocacinoma cell line from mouse), I studied the effect of ganoderma spore oil induces the apoptosis of TS/A cells and its molecular mechanism. Procedure: The effect of ganoderma inhibiting the growth of TS/A was measured through MTT assay. Fluorescence-activated cell sorting analysis was carried out to detect cell apoptosis rate. The relative mRNA level was determined by qPCR. The change in expression of related proteins were shown by Western Blot analysis. Results: MTT essay suggested that the ganoderma induces the apoptosis of TS/A. As the concentration of ganoderma rises, the cell viability of TS/A decreased. Fluorescence-activated cell sorting analysis also showed higher death rate in the dosing groups compared to the control group. In the research of molecular apoptosis mechanism, the qPCR results showed that the relative mRNA level of caspase 3, caspase 8, caspase 9 and stat 1 in the dosing groups displayed difference to the control group. The Western Blot analysis further corroborates the qPCR results by showing corresponding changes in protein levels. Conclusion: The study suggests that ganoderma is capable of inducing the apoptosis of TS/A by regulating its mRNA level of related genes and the protein levels, holding great promise in further application of cancer therapy.

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