Vitamina K2 aumenta a apoptose no carcinoma de pulmão

Apoptosis induction of vitamin K2 in lung carcinoma cell lines: the possibility of vitamin K2 therapy for lung cancer.
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Abstract
Vitamin K2 (menaquinone-4: VK2) has been reported to show apoptosis and differentiation-inducing effects on leukemia cells. Furthermore, the clinical benefits of using VK2 have been demonstrated for the treatment of the patients with acute leukemia and myelodysplastic syndromes. In the present study, we examined the in vitro effects of VK2 on lung carcinoma cell lines LU-139 and LU-130 for small cell carcinomas, PC-14 and CCL-185 for adenocarcinomas, LC-AI and LC-1/sq for squamous cell carcinomas, and IA-LM for large cell carcinoma, respectively. Treatment with VK2 for 48 to 96 h resulted in cell growth suppression in a dose-dependent manner in all cell lines tested. IC50 (50% inhibitory concentration) for VK2 ranged from 7.5 to 75 micro M, and there was no relation between the efficacy of growth suppression by VK2 and tissue type of lung carcinoma cell lines. Morphologic features of the cells treated with VK2 were typical for apoptosis along with caspase-3 activation and becoming positive for APO2.7 monoclonal antibody, an antibody which specifically detects the cell undergoing apoptosis. In addition to the leukemia cell line, LU-139 cells accumulated into G0/G1 phase during 72-h exposure to VK2. Combined treatment of cisplatin plus VK2 resulted in enhanced cytotoxic effect compared to the cells treated with either cisplatin or VK2 alone. Since VK2 is a safe medicine without prominent adverse effects including bone marrow suppression, our data strongly suggest the therapeutic possibility of using VK2 for the treatment of patients with lung carcinoma.

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