

论著

维生素E琥珀酸酯体外防护顺铂肝细胞毒性并增强其抗肿瘤细胞增殖活性

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摘要 目的 研究维生素E琥珀酸酯(VES)对顺铂(CP)肝细胞毒性及联合用药增强抗肿瘤活性的可能。方法 用二步灌注法分离人和大鼠肝细胞, 接种于胶原铺被的96孔板, 细胞贴壁后, 分别加入一系列浓度的CP, VES及CP+VES, 于48 h用噻唑蓝(MTT)比色法检测细胞存活率, 并计算半数抑制浓度(IC₅₀); 同样方法用于检测CP, VES及CP+VES对人大肠癌细胞系CCL229和人大肠癌细胞系DU-145的抗增殖作用。结果 CP, VES, CP+VES 1 mg/L, CP+VES 5 mg/L, CP+VES 10 mg/L对人大肠癌细胞的IC₅₀分别为2.35, >100, 2.26, 4.25, 6.93 mg/L; CP, VES, CP+VES 5 mg/L, CP+VES 10 mg/L, CP+VES 25 mg/L对大鼠肝细胞的IC₅₀分别为4.70, >100, 10.94, 17.57, 23.24 mg/L; CP, VES, CP+VES 5 mg/L, CP+VES 10 mg/L, CP+VES 25 mg/L对DU-145和CCL229的IC₅₀分别为6.36, 55.36, 5.04, 4.85, 0.58和9.58, 39.47, 7.29, 4.22, 2.43 mg/L。结论 VES能明显减低CP所致人和大鼠肝细胞毒性, 增强CP对DU-145和CCL229细胞的抗增殖作用。

关键词 [肝细胞](#) [肿瘤细胞](#), 培养的 [顺铂](#)

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Vitamin E succinate ester prevents from cytotoxicity of cisplatin in hepatocytes and enhances its antiproliferative activities

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Abstract

AIM To investigate the effects of vitamin E succinate ester (VES) on cytotoxicity of cisplatin (CP) and to explore the possibility of enhancing antitumor activity by the combination of VES and CP. **METHODS** Hepatocytes isolated from rats and humans by two-step perfusions were used to evaluate cytotoxicity of CP and antiproliferative activity of CP in human prostate cancer cell line DU-145 and human colon cancer cell line CCL229; MTT assays were performed to evaluate cell viabilities. **RESULTS** Concentration of CP which inhibited 50% cell growth(IC₅₀) was 2.35 and 4.70 mg/L in primary cultures of human and rat hepatocytes, respectively. VES increased IC₅₀ of CP to 6.93 mg/L and more than 100 mg/L, respectively; IC₅₀ of CP in DU-145 and CCL229 were 6.36 mg/L and 9.58 mg/L, respectively. VES decreased IC₅₀ to 0.58 mg/L and 2.43 mg/L, respectively. **CONCLUSION** VES can decrease CP-induced cytotoxicity in human and rat hepatocytes, and enhance antiproliferative activity of cisplatin in DU-145 and CCL229.

Key words [hepatocytes](#) [tumor cell](#) [cultured](#) [cisplatin](#) [vitamin E succinate ester](#)

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