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论著

三氯化镧对CBRH-7919细胞CyclinD1和CDK4蛋白表达的影响

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摘要 背景与目的： 研究三氯化镧(LaCl3)对大鼠肝癌细胞CyclinD1和CDK4蛋白表达的影响。 材料与方法：采用体外培养大鼠肝癌细胞株CBRH-7919，分别加入0.01、0.10、1.00 mmol/L LaCl3培养1、3、5 d后观察CBRH-7919细胞生长变化；运用流式细胞术、MTT实验和免疫细胞化学检测与G1期调控有关的CyclinD1和CDK4的变化情况，以培养液中不加LaCl3体外培养CBRH-7919作为对照。 结果： 0.10、 1.00 mmol/L LaCl3组培养后3、5 d对细胞的生长均具有抑制作用，与对照组比差异具有统计学意义(P<0.01)； G0/G1期细胞百分数均有显著性增加，与对照组比差异均具有统计学意义(P<0.01)； CyclinD1 、CDK4阳性表达均显著减弱，与对照组比差异具有统计学意义(P<0.01)。 结论： LaCl3可通过下调CyclinD1和CDK4，使肿瘤细胞从G1期进入S期受阻，从而抑制CBRH-7919细胞的生长。

关键词 稀土元素； 三氯化镧； 肝癌细胞细胞周期； CyclinD1； CDK4

Effect of LaCl3 on the Expression of CyclinD1 and CDK4 in Hepatocellular Carcinoma Cells

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Abstract BACKGROUND & AIM: To study the effect of LaCl3 on the expression of CyclinD1 and CDK4 in hepatocellular carcinoma cells. MATERIALS AND METHODS: The in vitro growth of CBRH-7919 cells was observed following treatment with 0.01, 0.10, 1.00 mmol/L LaCl3 for 1,3,5 days, the changes of cell cycle were assessed by flow cytometry. At the same time,changes of CyclinD1 and CDK4 were studied by immunocytochemical analysis. CBRH-7919 cells without LaCl3 were used as control groups. RESULTS: The growth of CBRH-7919 cells was markedly inhibited by 0.10 and 1.00 mmol/L LaCl3 treatment for 3, 5 days,with a time-depentent effect in 1.00 mmol/L group, as compared with control group, the difference was statistically significant(P<0.01). The percentage of CBRH-7919 cells in G0/ G1 phase was significantly increased by 0.10 and 1.00 mmol/L LaCl3 groups for 3, 5 days, as compared with control group (P<0.01). However the expression of CyclinD1 and CDK4 was significantly decreased in 0.10 and 1.00 mmol/L LaCl3 groups for 3, 5 days as compared with control group(P<0.01). CONCLUSION: LaCl3 could obviously inhibit the growth of CBRH-7919 cells by down-regulating CyclinD1 and CDK4 and blocking the cell cycle progression from G1 to S.

Keywords rare earth elements LaCl3 hepatocellular carcinoma cells cell cycle Cyclin D1； CDK4

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