

COX-2 抑制剂联合顺铂或X射线对A549肺腺癌细胞株的体外实验

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The Depressive Effect of Detected on the Prol iferation of A549 Human Lung Adenocarcinoma Cell Lines and Celecoxib Combined with Cisplatin or X-ray

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- 摘要
- 参考文献
- 相关文章

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摘要

目的 观察环氧化酶-2 (COX-2) 抑制剂塞来昔布 (Celecoxib) 联合化疗药物顺铂 (DDP) 或联合X射线对A549人肺腺癌细胞增殖的影响及可能机制。方法 应用MTS法分别检测Celecoxib与DDP联用对A549细胞增殖的影响及联合X射线对A549细胞存活分数 (SF) 的影响, 流式细胞术检测细胞凋亡。结果 在一定浓度范围内, Celecoxib和DDP均可抑制A549人肺腺癌细胞的生长, 其抑制作用呈量一效关系。两者联用可增强对A549细胞生长的抑制作用, DDP浓度 $\geq 1\text{mg/L}$ 时两者具有协同或相加作用。Celecoxib与X射线联用可显著降低细胞存活分数 (SF), 增加细胞凋亡率。结论 Celecoxib与DDP联合可增强对A549人肺腺癌细胞的生长抑制效应; Celecoxib与X射线联合时, 可增加AS49人肺腺癌细胞的凋亡率, 增强其对放射的敏感性。

关键词: 肺癌 环氧化酶2 体外实验 凋亡 X射线

Abstract: Objective To observe the depressive effect of celecoxib combined with cisplatin or X ray on A549 human lung adenocarcinoma cells. Methods The depressive effect on the proliferation of A549 cells was detected by MTS technique when celecoxib was combined with cisplatin , the effect on SF of A549 cells was detected by MTS technique when celecoxib was combined with X ray , the apoptosis of A549 cells was detected by flow cytometry. Results Within a certain concent ration ,celecoxib and cisplatin was able to inhibit the proliferation of A549 cells respectively ,and dose2effect relationship was detected in the process. The combination of celecoxib (0. 35mg/ L) and cisplatin could enhance the depressive effect ,and synergistic effect or addition effect was detected in the combination when the concent ration of cisplatin was more than 1mg/ L. In addition ,celecoxib/ X ray (4 Gy) combination significantly decreased the SF of A549 cells and increased the apoptosis rate of A549 cells. Conclusion Celecoxib/ cisplatin combination could enhance the depressive effect on the proliferation of A549 human lung adenocarcinoma cells ; Celecoxib/ X ray could increase the apoptosis rate of A549 human lung adenocarcinoma cells ,enhance the cells' radio sensitivity.

Key words: Lung Cancer COX-2 inhibitor In vivo experiment Apoptosis X-ray

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