

## 旋转磁场联合5-Fu对SP2/O细胞周期及凋亡的影响

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### Effect of Rotary Magnetic Field Combining 5- fluorouracil on Cell Cycle and Apoptosis in SP2/O Cell Line

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- 摘要
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全文: PDF (717 KB) HTML (0 KB) 输出: BibTeX | EndNote (RIS) 背景资料

**摘要** 目的 研究旋转磁场 (RMF) 联合氟尿嘧啶 (5-Fu) 对小鼠骨髓瘤细胞 (SP2/O) 细胞周期及凋亡的影响。方法 SP2/O细胞分为四组: 对照组、单纯5-Fu化疗组 (单化组)、单纯磁疗组 (单磁组)、磁场联合5-Fu组 (磁化组)。用RMF联合5-Fu作用于SP2/O细胞, 流式细胞仪进行分析。结果 单磁组S期细胞比例和单化组G1期细胞比例均高于其余3组 (P<0.05)。磁化组S期细胞比例降低, 低于单磁组, 但仍高于对照组和单化组 (P<0.05)。磁化组G1期比例高于对照组及单磁组 (P<0.05)。单磁组和对照组比较, 细胞凋亡率差异无统计学意义 (P>0.05); 单化组和磁化组的细胞凋亡率明显高于对照组和单磁组 (P<0.05), 而磁化组的凋亡率明显高于单化组 (P<0.05)。结论 磁场可引起细胞周期S期比例增高。单纯磁场处理不能诱发细胞的凋亡, 但磁场可增强5-Fu的毒性从而促进5-Fu引起的细胞凋亡, 其机制可能与RMF引起SP2/O细胞周期的改变有关。

**关键词:** 旋转磁场 细胞凋亡 细胞周期 SP2/O细胞 5-Fu

#### Abstract:

**Abstract:** Objective To study the effect of rotary magnetic field (RMF) combining 5-Fu on the cycle and apoptosis of mouse cell line SP2/O in vitro. Methods SP2/O cells were randomly divided into four groups: control group (N), 5-Fu group (C), magnetic group (M) and magnetic combining 5-Fu group (M+C). The M and M+C groups were treated with a RMF for two hours once a day. On day 4, the C and M+C groups were treated with 5-Fu 20  $\mu$ g/ml. On day 5, cell cycle and apoptosis were measured by the flow cytometric (FCM). Results The S phase proportion of the M group and the G1 phase proportion of the C group were higher than that of the other three groups (P<0.05). The S phase proportion of the M+C group decreased and lower than that of the M group, but was still higher than that of the N and C groups (P<0.05). There was no significant difference in apoptosis rates between the N and M groups (P>0.05). The apoptosis rates of the C and M+C groups were remarkably higher than those of the N and M groups and the M+C group had the highest apoptosis rate. Conclusion The RMF can't induce the apoptosis. But it can enhance the cytotoxicity of 5-Fu and promote the cell apoptosis. The mechanism of the apoptosis may be related to SP2/O cell line arrested at S phase.

**Key words:** RMF Apoptosis Cycle SP2/O cell line 5-fluorouracil

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