

## CO<sub>2</sub>对宫颈癌HeLa细胞抗失巢凋亡特性的影响

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### Effect of CO<sub>2</sub> on Anti-anoikis of HeLa Cell

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**摘要** 目的 观察CO<sub>2</sub>对宫颈癌HeLa细胞系抗失巢凋亡能力的影响。方法 以宫颈癌HeLa细胞系为研究对象, 实验组给予CO<sub>2</sub>持续通气4小时, 压力为8mmHg, 对照组HeLa细胞不进行CO<sub>2</sub>通气, 两组细胞同时设贴壁培养组和悬浮培养组进行培养24h、72h、120h。利用软琼脂集落形成实验、Poly HEMA悬浮培养、流式细胞技术、观察体外培养过程中CO<sub>2</sub>对宫颈癌HeLa细胞系增殖和抗失巢凋亡的影响。结果 实验组与对照组均具有凋亡能力和抗失巢凋亡能力, 实验组的增殖能力和集落形成明显优于对照组 ( $P < 0.01$ ), 但实验组抗失巢凋亡能力明显低于对照组。结论 CO<sub>2</sub>能够促进宫颈癌HeLa细胞集落形成, 具有较强的失巢凋亡能力, 但不能增强抗失巢凋亡能力。

**关键词:** 宫颈癌 HeLa细胞 失巢凋亡 增殖 浸润 转移

**Abstract:** Objective To observe the effect of CO<sub>2</sub> on the anti-anoikis of HeLa cell (cervical cancer). Methods HeLa cells were randomly divided into experimental group and control group. In experimental group, CO<sub>2</sub> was insufflated into the containers by pressures of 8 mm Hg for 4 hours. Control group was not treated by CO<sub>2</sub>. Two groups of cells were cultured for 24h, 72h and 120h in adherent and suspension methods. The effect of CO<sub>2</sub> on the proliferation and antianoikis of HeLa cells were detected through soft agar colony formation experiments, Poly HEMA suspension culture and Flow cytometry assay. Results The abilities of apoptosis and anti-anoikis were observed in 2 groups. The proliferation and colony formation capabilities were stronger in experimental group than that in control group, but the anti-anoikis of experiment group was significantly lower than that of the control group ( $P < 0.01$ ). Conclusion CO<sub>2</sub> was able to improve the colony formation and anoikis of HeLa cells, no a great impact, however, on anti-anoikis.

**Key words:** Cervical cancer HeLa cells Anoikis Proliferation Invasion Metastasis

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