

人皂苷Rg3对人鼻咽癌HNE-1细胞增殖和血管生成的影响

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Anti-proliferative and Anti-angiogenic Effects of Ginsenoside Rg3 on Human Nasopharyngeal Carcinoma HNE-1 Cell Line

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全文: PDF (933 KB) HTML (0 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 目的 研究人皂苷Rg3 (ginsenoside Rg3) 对人鼻咽低分化鳞癌HNE-1细胞的增殖、迁移及体外血管生成的影响。方法 用不同浓度人皂苷Rg3处理HNE-1细胞, MTT法检测HNE-1细胞增殖活性; 创伤修复实验检测细胞迁移能力; 观察HNE-1细胞能否在Matrigel上形成血管网状结构及其特点; 体外管道形成抑制试验检测不同浓度人皂苷Rg3对HNE-1细胞管道形成能力的影响。结果 不同浓度人皂苷Rg3 (50、100、200μg/ml) 对HNE-1、CRL-2480细胞均有一定的增殖抑制作用, 呈浓度依赖性趋势, 无时间依赖性, 差异均无统计学意义 ($P>0.05$); 人皂苷Rg3 (25、50、100、200μg/ml) 可以显著降低HNE-1细胞迁移速度, 与对照组比较差异有统计学意义 ($P<0.001$), 与浓度呈负相关 ($r=-0.964$; $P<0.001$); HNE-1细胞在Matrigel上培养能形成血管网状样结构; 人皂苷Rg3能抑制HNE-1细胞体外管道形成 ($P<0.01$), 其管状结构数量与人皂苷Rg3浓度呈负相关 ($r=-0.928$; $p<0.01$)。结论 人皂苷Rg3有一定的抗HNE-1细胞增殖作用; HNE-1细胞具有血管生成拟态; 人皂苷Rg3能够抑制HNE-1细胞的迁移和体外血管生成拟态的形成。

关键词: 鼻咽癌 血管生成拟态 人皂苷Rg3

Abstract: Objective To study the inhibitory effects of Ginsenoside Rg3 on proliferation, migration and in vitro angiogenesis of human nasopharyngeal carcinoma HNE-1 cells. Methods The proliferative activity, migration and tube like structures (TLSs) formation of HNE-1 cells, cultured in medium with different concentration of Ginsenoside Rg3, were determined by MTT assay, wound healing assay and *in vitro* anti-angiogenic test, respectively. Anti-angiogenic test was based on preliminary experiment on the observation of TLSs formed by HNE-1 cells on Matrigel and their structural characteristics. Results Ginsenoside Rg3 had anti-proliferative effect both in HNE-1 and CRL-2480 cells at the concentrations of 50, 100 and 200μg/ml, which was dose dependent but not time-dependent, and neither of them has statistical significance ($p>0.05$). Ginsenoside Rg3 could significantly decrease the migration velocity of HNE-1 cells at the concentrations of 25, 50, 100 and 200μg/ml, of which the differences were all statistically significant compared with control group ($p<0.01$), and the effect was negatively correlated with the concentration of Ginsenoside Rg3 ($r=-0.964$; $p<0.001$). HNE-1 cells could form TLSs on matrigel. Ginsenoside Rg3 could inhibit the formation of TLSs of HNE-1 cells, and the number of tubule was negatively correlated with the concentration of Ginsenoside Rg3 ($r=-0.928$; $p<0.01$). Conclusion Ginsenoside Rg3 has certain anti-proliferative effect on HNE-1 cells. HNE-1 cells could form TLSs on matrigel. Ginsenoside Rg3 can inhibit the migration and vasculogenic mimicry of HNE-1 cells.

Key words: Human nasopharyngeal carcinoma (NPC) Vasculogenic mimicry Ginsenoside Rg3

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