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IL-15 基因修饰的NK细胞对原代卵巢癌细胞的杀伤作用 点此下载全文

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摘要：

目的： 探讨γ射线照射后的 IL-15 基因修饰的NK细胞（简称NK-ustc细胞）对原代卵巢癌细胞的体内外杀伤活性。 方法： 分离卵巢癌患者腹水原代卵巢癌细胞。不同剂量γ射线（0、1、2、4、8、16 Gy）照射NK-ustc细胞， 3H-TdR掺入法检测照射后NK-ustc细胞的增殖情况，51Cr释放法检测NK-ustc细胞对K562和原代卵巢癌细胞的杀伤活性。建立人裸鼠荷卵巢癌模型，随机分为NK-ustc治疗组（模型鼠腹腔注射辐照后的NK-ustc细胞）和培养基对照组，同时设空白对照组（正常裸鼠腹腔注射辐照后的NK-ustc细胞），观察各组裸鼠体重、腹围及生存期。 结果： 1、2、4、8、16 Gy辐照后NK-ustc细胞的增殖率分别为（62.1±9.8）%、（41.3±8.7）%、（14.6±4.1）%、（0.1±0.03）%和（0.2±0.04）%。当效靶比为10∶1时，0、8 Gy辐照后NK-ustc细胞对K562的杀伤率分别为（45.4±8.9）%和（43.1±6.4）%，对原代卵巢癌细胞的杀伤率分别为（54.6±6.4）%和（48.3±5.8）%，说明辐照不影响NK-ustc细胞的杀伤活性（ P >0.05）。辐照后NK-ustc细胞治疗组荷瘤小鼠的中位生存期为75 d，对照组为39 d（ P <0.05），空白对照组小鼠全部存活。 结论： γ射线照射可有效抑制NK-ustc细胞增殖，但保留该细胞对原代卵巢癌细胞的杀伤活性。

关键词：自然杀伤细胞 IL-15 基因 卵巢癌 免疫治疗

Cytotoxic activity of IL-15 gene modified-NK cells against primary ovarian cancer cells Download Fulltext

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Abstract:

Objective : To explore the cytotoxic activity of IL-15 gene modified-NK cells (NK-ustc cells) against primary ovarian cancer cells in vitro and in vivo . Methods: Primary ovarian cancer cells were isolated from ascites of patients. NK-ustc cells were irradiated with different dosages of gamma ray (0, 1, 2, 4, 8, 16 Gy), and the proliferation of irradiated NK-ustc cells were detected by 3H-TdR incorporation assay. Cytotoxic activities of NK-ustc cells against K562 and primary ovarian cancer cells were measured by 51Cr release assay. The tumor-bearing mouse model was established using primary ovarian cancer cells and randomly divided into NK-ustc treatment group (intraperitoneal injection of 8 Gy irradiated NK-ustc cells) and medium control group; moreover, blank control group (8 Gy irradiated NK-ustc cells were injected into nude mice) was also included in the present study. The body weight, abdomen circumference and survival time of nude mice were monitored. Results: After 1, 2, 4, 8 and 16 Gy irradiation, the proliferation rates of NK-ustc cells were (62.1±9 8)%, (41.3±8.7)%, (14.6±4.1)%, (0.1±0.03)% and (0.2±0.04)%, respectively. The cytotoxic rates of 0 and 8 Gy irradiated-NK-ustc cells against K562 cells were (45.4±8.9)% and (43.1±6.4)% when the effector to target ratio was 10∶1, and those against ovarian cancer cells were (54.6±6.4)% and (48.3±5.8)%, respectively. Thus, irradiation had no influence on cytotoxicity of NK-ustc cells (P >0.05). The median survival time of irradiated-NK-ustc cells treated mice was 75 d, and that of control group was 39 d (P <0.05). All the mice in the blank control group survived. Conclusion: Gamma ray irradiation can effectively inhibit proliferation of NK-ustc cells, but retain their cytotoxic activities against primary ovarian cancer cells.

Keywords:natural killer cell IL-15 gene ovarian carcinoma immunotherapy

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